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## A CRITICAL REVIEW OF THE CONCEPT OF SET IN CONTEMPORARY EXPERIMENTAL PSYCHOLOGY

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### INTRODUCTION

The concept of set or attitude is a nearly universal one in psychological thinking despite the fact that the underlying meaning is indefinite, the terminology chaotic, and the usage by psychologists highly individualistic. For almost 40 years, since the first employment of the concept in research problems, the meaning which clusters around such words as readiness, preparation, disposition, and intention has scarcely been refined beyond the common-sense level to be found in the dictionary. By some experimenters, particularly those working on conditioning, the meaning is felt to be unsatisfactory, and the concept is employed reluctantly and only because the facts make it absolutely unavoidable. By other experimenters, particularly those interested in thinking, the concept is used freely, but with great variations in terminology (direction, need, hypothesis, schema).

The variation in the meaning of the concept as employed by psychologists may be illustrated by the following recent examples of the way in which the term *set* has been applied: to neurotic anxiety (77), to primary or immediate memory (38), to a partial insight or way of seeing a problem (70), to sensory hallucinations (77), to the incubation process in reasoning (23), to the "atmosphere" induced by logical premises (119), to the time-error of psychophysics (118), and to Pavlov's delayed conditioned reflex, Thorndike's spread-of-reward, and Tolman's cognitive expectations. The looseness of terminology may be illustrated by the following list of variants, all of which can be found in recent articles: mental set, motor set, neural set, voluntary set, unconscious set, postural set, organic set, preparatory set, task-set (*Aufgabe*), situation-set, goal-set, temporary set, permanent set, set to react,

set to perceive, expectation (expectancy), hypothesis, anticipation, foresight, intention (aim, end, purpose, determination), attitude, directing tendency, determining tendency, tension, vector, need, attention, perseveration, preoccupation.

A few writers have offered definitions of set, and Warren's dictionary defines a number of the above variants. But the definitions are always dictionary definitions in the sense that they employ synonyms rather than specify experimentally definable characteristics. Sets are usually "tendencies," "dispositions," or "readiness," and their effect on activity is one of "facilitation," "selection," "determination," or "guidance." Other writers, perhaps more realistically, have given a series of illustrations of what they mean by set and have discussed the common features which emerge. In particular, Young has exemplified *organic set* (122), Sells has exemplified a type of set which he calls *atmosphere-effect* (100), Mowrer has gathered experimental evidence for *expectancy* (77), and, most recently, Dashiell has listed some 15 dissimilar experimental phenomena and attempted to formulate principles generally applicable to set (23). These lists are interesting not only in themselves, but even more for the differences between them. The common core of meaning is difficult to trace.

Apparently the term *set* denotes a large and heterogeneous body of experimental facts and connotes rather different things to different psychologists. The scientific problem involved—if it is a single problem—is obscured by confusions and contradictions. This review will not make an exhaustive survey of the experimental facts nor will it attempt to reach any general formulations, but, instead, by making a systematic sampling of the experimental writings, will formulate problems, draw distinctions, and expose inconsistencies. It will be necessary to exclude some fields of investigation from this review, not because they are unrelated to the concept of set, but chiefly because exclusion must begin somewhere. Attitudes which are called "social" will arbitrarily be omitted, together with related phenomena of opinions, judgments, sentiments, prejudices, and traits. Allport has reviewed these concepts and contributed his own theories (3, 4). Likewise, the phenomena of drive, instinct, urge, and motive will be excluded, although these are surely determining tendencies. The concept of set was first employed in the classical human psychology of the laboratory, and it is to the long-standing problems of thinking, perceiving, memorizing, the reaction experiment, and the human

conditioning experiment that we shall turn for most of the evidence.

### *Historical Origins*

At about the turn of the century it began to be realized that the events in a psychological experiment—reactions, associations, judgments, or thoughts—were determined by something other than the reportable events themselves and that this was itself a psychological problem. The instructions given by the experimenter could be shown to be a source of this determination. More particularly, the subject, having been given a task, had adopted for the duration of the experiment a task-attitude. Marbe, Ach, Watt, and others at Würzburg exploited this idea and introduced a terminology. Their principal concepts were these: first, the *Einstellung*, which was produced by the conscious acceptance of the *Aufgabe*, the subject having it being temporarily *eingestellt*; second, the *determinierende Tendenz*, a more specific selective agent conceived by Ach as opposable to associative tendencies; and third, the *Bewusstseinslage* or conscious attitude, which was the imageless undescrivable experience accompanying a mental set or trend. In the course of translation and further experimentation, however, these terms have lost their original precision of meaning; Titchener (107), Boring (10), and Sullivan (105) have written historical accounts of their original experimental setting. The best-known experimental example seems to be Ach's demonstration that the presentation to a subject of the numbers 6 and 2 may yield a reaction of either 8, 4, or 12, depending on whether the task prescribed was adding, subtracting, or multiplying (1). (The aim of the subject determines the reaction rather than the stimuli or their associative tendencies.)

It is worth noting that this phenomenon of set established by the Würzburg psychologists was conceived from the beginning as something quite distinct from association, from reaction, and from ordinary conscious content. It was not any of these things, but was a determiner of all of them. The theory that attitudes determined sensations and ideas without themselves being either sensations or ideas was reflected in the imageless thought controversy, but the other two distinctions, if less controversial, were perhaps even more significant. The assumption that attitudes are determinants which are *external* to learning and also to action has persisted for 40 years side-by-side with the contradictory assumption that attitudes are products of learning and are forms of action.

The contradiction has been all the more a source of confusion for not being usually recognized.

#### SET IN THE REACTION EXPERIMENT

Even before the advent of the *Einstellung* at Würzburg, Exner, according to Woodworth (118), had emphasized the importance of the preparatory phase in the reaction-time experiment and had called the voluntary quick reaction a "prepared reflex." This was, of course, not consistent with the common-sense view that a voluntary reaction was a sequence consisting of a perception, a *fiat* of the will, and a muscular response. Ach, in 1905, demonstrated that the "volition" in the voluntary reaction occurred before, rather than after, the stimulus (1) and was, in fact, to be described largely in terms of preparatory set. The foreperiod between the ready-signal and the stimulus contained everything of reportable significance, while the mid-period and after-period contained little or nothing.

#### *Expectation and Intention*

The nature of this preparatory set came into question during the controversy over sensorial and muscular reactions. The attention could be directed predominantly either to the perception of the stimulus or to the execution of the response. The preparatory set was by no means a single unitary process; among other complications it could vary between the extremes of a sensorial attitude and a muscular attitude. The theoretical implications of this discovery have been interestingly described by Woodworth (118) and do not concern the present inquiry; the important point is that the preparatory set contains aspects of both *expectation* and *intention*. This distinction is important because it has been neglected by some students of conditioning. Mowrer, for example, identifies preparatory set with "expectancy" and nothing more (77). That expectation and intention are separable has been demonstrated, in another connection, by Lindner (67), who set up an expectation both with and without an accompanying motor intention to react. Hilgard and Humphreys (45) have shown in a beautifully designed experiment how conditioned eyewink responses are modified by what is here called intention independently of the subject's "expectancy of stimulus objects." The distinction will be employed throughout this survey, particularly in a later section dealing with voluntary sets in the conditioning experiment.



*Premature and False Reactions*

A characteristic of the voluntary quick reaction to an expected single stimulus is that occasionally the subject will "jump the gun," in the terminology of the sprinter, reacting before the stimulus occurs or with a latency of less than 100 milliseconds. It is significant that this happens almost exclusively when the subject has adopted a muscular attitude, which suggests that the effect is produced by strong intention rather than strong expectation. The effect is properly called a premature reaction (118). A second characteristic of the simple reaction is that it will frequently occur when an extraneous stimulus is substituted for the expected one, and there is evidence that the frequency of this occurrence is proportional to the similarity of the substituted to the expected stimulus (30). When the subject is instructed not to respond to the extra stimulus (the discrimination reaction) or to respond differently to the two stimuli (the choice reaction), this type of reaction also occurs, especially at the beginning of training. It is called a false reaction.

Characteristics similar to these have been discovered for conditioned responses, and this similarity has helped to promote both expectancy theories of conditioning and conditioned-response theories of voluntary action (47, Chap. 11). A conditioned response does tend to anticipate the unconditioned stimulus and to move ahead in time; a parallel with the premature reaction exists here, but is surely not perfect. Much closer is the parallel between the occurrence of false reactions to extraneous stimuli and the generalization of conditioned responses (30). It should be noted that either of the above characteristics alone can be supposed to be common to voluntary and conditioned reactions, but not both. For the first makes the ready-signal analogous to the conditioned stimulus while the second makes the "stimulus" analogous to it.

*Relation of the Foreperiod to Reaction Time*

If one supposes that quickness of reaction is proportional to the strength of the preparatory set—an assumption which Ach made for the determining tendency (2) and which Mowrer has recently adopted as a method of measuring set (77)—it becomes important to modify the preparatory interval, or foreperiod, and look for the effects. The results may be summarized by four principles. First, reaction time is a function of the absolute length of the foreperiods employed, very long and very short intervals being unfavor-

able (118). Second, preparatory intervals of uniform length are favorable to reaction time, but if they are repeated for long, the times will approach zero, and it will hardly be possible to say that the subject is then reacting to the stimulus. Presumably he is reacting to the time-interval itself. This fact has been a source of confusion in attempts to "condition" voluntary reactions (72). The method of preventing such impossibly quick reactions is to give occasional "catch tests" in which the stimulus is withheld (118). Third, as Woodrow proved in 1916, an irregular sequence of preparatory intervals is unfavorable to reaction time as compared with a regular sequence (117). Woodrow called his experiment the "detraction" method of measuring attentive set. Rodnick has used it to differentiate schizophrenic patients from normal controls (95). Fourth, and finally, Mowrer has supplemented Woodrow's discovery by demonstrating that the *more* irregular a given preparatory interval in a series of reactions (the greater its discrepancy from preceding regular intervals), the greater will be the lengthening of the reaction time. Mowrer assumes that the irregularity affects reaction time by weakening the expectancy of a stimulus, but the effect could equally well be explained as a weakening of the intention to react (77).

#### *The Central or Peripheral Locus of Set*

Mowrer, Rayman, and Bliss have published the results of a reaction experiment which are interpreted as demonstrating a central (neural) rather than a peripheral (motor) locus for preparatory set (78, 79). The interpretation has been challenged by Freeman, who believes that set is organic or is at least always accompanied by motor components (28). Mowrer's experiment demonstrated that a subject who is set to react in an identical way to *either* a visual or an auditory stimulus has a longer reaction time (to the auditory stimulus) than one who is simply set to react to the auditory stimulus. The variable here was a determinate or indeterminate expectation; the motor intention was identical in the two cases. In another experiment, a subject who was set to react identically to either stimulus showed an increase in reaction time when, after a series of stimuli of one type, a stimulus of the other type was introduced. Since in these cases the latencies were not a function of the motor process, *i.e.* the reaction, but of the stimulus expectancy, Mowrer infers that the set is a central rather than a motor process. Freeman objects to this inference, pointing out that

stimulus expectancy may have motor components (e.g. sense organ adjustments).

In the opinion of the writer of this review, the experiments described are not relevant to the problem of the central or peripheral locus of set. They do demonstrate that an expectation can be varied independently from an intention and that in the reaction experiment a variation in the expectation may in isolation produce an effect on reaction time. Mowrer's results showed reaction time to increase when the expectation became indeterminate or equivocal and also when it was not appropriate to the stimulus. If anyone ever held that the total preparatory set of the reaction experiment was nothing more than the preparatory adjustment of the reacting finger, then this view has been refuted.

The question of motor or central theories of expectation, intention, or any other form of set remains unsolved. Motor set *vs.* mental set is only one aspect of the general issue raised by the motor theory of consciousness. The issue is traceable historically at least as far back as Titchener's and Washburn's contention that impalpable awarenesses and imageless thoughts were really kinesthetic feelings of bodily attitudes or automatic habits (9, 107, 112). Young has recently argued for the continuity of muscular and postural set with the more complex "mental" attitudes (122), and Dashiell has made a similar suggestion (22). It is possible to argue that the issue should be deferred until something more is known about the phenomenon of set itself.

#### THE RELATION BETWEEN SET AND HABIT

##### *The Determining Tendency vs. the Associative Tendency*

As originally conceived, a set was something which selected from among the various possible associations or reactions of the moment that one which was congruent with the task. The idea or act aroused was determined not merely by the strength of the associative bond leading to it, but also by the strength of a tendency which derived from what the subject was doing at the time. This determining tendency was distinct from, and opposable to, associative tendencies. The first attempt to measure the determining tendency, by its originator, Ach, illustrates clearly the opposition (2). Ach set out to discover how strong an associative tendency had to be between a pair of nonsense syllables (how many repetitions) to overcome in a subsequent series a conflicting voluntary set—for example, the set to *rhyme* the cue-syllable. He also

recorded verbal reaction times, measuring the slowing up of the rhyming reaction produced by previous training with a memorizing reaction. Ach was contrasting will with habit. An account of the experiments is given in English by Koffka (62, pp. 574 ff.).

The conception of set has thus included from the beginning the notion of an opposition to associative habit, in view of its selecting, directing, or determining function. A better-known example of this notion is furnished by the controlled word-association experiment of the Würzburg laboratory. Watt (114) introduced controlling preparatory sets like genus-species and part-whole, *i.e.* the giving of a response standing in a specified logical relation to the stimulus word. An interesting discovery of this experiment was that the reaction time was not longer than the free-association reaction; a determinate set might even yield quicker reactions than an indeterminate one. May (73) investigated the effect of foreperiod variation on these controlling sets, finding that they become more automatic and less conscious with increasing practice. He emphasized that a perfectly "free" associative tendency, uncomplicated by any determining set, was nonexistent. Koffka (61) had obtained results showing that, when subjects tried to give wholly free associations, latent attitudes emerged and became spontaneously imposed on the performance. Not unrelated to this emphasis is the diagnostic use of so-called free association. As Jung assumed, and as Luria (69) has recently verified, if voluntary controlling sets are not prescribed in the association experiment, less voluntary and more emotional attitudes (complexes) determine the reaction. In any event, it is not determined solely by the classical laws of associative strength.

#### *The American Conception of Habit*

The concept of set employed by American psychologists, however, has usually included a meaning quite inconsistent with this original one. They have tended to believe that sets were not only determiners of associative habits but were also themselves habits. Titchener and Washburn proposed that determining tendencies were nothing more mysterious than implicit motor attitudes accompanying automatic habits (107, 112). James, Dewey, Holt, Woodworth, and, most recently, Allport (4) have conceived of habits as being thoroughly dynamic and as constituting attitudes, sets, or wishes with directing and determining functions—in short, as being not merely "mechanisms" but also "drives." Unless the

determining tendency were innate or the product of a faculty of will, what else could it be except a product of learning? But this view, however plausible, makes the conception of set ambiguous in several respects. For example, if intentions are learned, how can learning be "dependent on intention"? And if an associative tendency involves the building up of a set, how is it that a set can select among several associative connections?

#### *Lewin's Experiments on Set*

Gestalt psychologists have treated the laws of association much more literally than have Americans and, in the tradition of Ach's experiment, have maintained the determining tendency in strict separation from the associative tendency. Volition and learning, however, demand some sort of reconciliation, and Lewin (65), in 1922, undertook a repetition of Ach's experiment. He provided the opportunity for two nonsense syllables to become associated by contiguity and frequency and then, by testing in the face of a contrary rhyming set, obtained no interference whatever upon the rhyming reaction by the hypothetically present associative tendency. He could obtain interference, as measured by reaction time, only when two *contrary sets* were aroused. (For an account of the experiments, see 62, p. 578.) Lewin concluded that there was no such thing as an automatic effect of contiguity and that association *as such* (as he defined and isolated it) has no force, as the determining tendency has. Association occurs only by virtue of a mental act, intention, or set; the force of habit either results from a determining tendency or is a misnomer. Lewin can be said to have resolved the contradiction between set and habit by sacrificing habit. His conclusion foreshadows Gottschaldt's experiment, to be described below.

#### *Is Learning Dependent on Intention to Learn?*

It has long been known that memorization as carried out in the laboratory depends upon the acceptance of the task by the subject. Nonsense syllables, at least, are not learned "accidentally" or "unintentionally"; learning clearly depends upon intention. What has never been clear is whether some learning occurs without intention. A recent example of an experiment in this field is that of Moore (74). He gave his subjects a prose paragraph with instructions either (1) to memorize it or (2) simply to read it or (3) to count the words in it. When recall was demanded immediately



afterward, the average scores for the three groups were, respectively, 51, 38, and 7. The average score for the second group was said to be as high as it was only because some subjects developed a spontaneous set to remember while they were reading. Moore got essentially the same type of results using nonsense syllables and also found in another experiment that subjects set to memorize the colors of a series of colored forms recalled few forms, while subjects set to memorize forms recalled few colors. He concludes that "the determining tendency is the organizing principle of learning" and that response linkages take place by virtue of this principle and not by association. When discrete events fit into a determining tendency, association occurs. Moore apparently assumed that the slight amounts of learning which did occur without intention were really to be explained by uncontrolled and unreported intentions.

Experiments on this question are not crucial, it is suggested, because experimental isolation of the influence of set is imperfect or, more fundamentally, because the concept of set is unclear and employed with different meanings by different investigators. Tolman, for example, holds that learning is not dependent on intentions because of the facts of latent learning obtained with maze-running in rats (108). He does, however, believe that learning is dependent on, or identifiable with, the acquiring of *expectations*.

#### *Set in the Past-Experience Controversy*

In 1926 and 1929 Gottschaldt (34) published a number of ingenious experiments bearing principally on the question whether repetition or frequency (past experience) plays any part in the perception of geometrical figures imbedded in larger figures. He put in opposition to the factor of practice the factor of perceptual organization, which tended, by incorporating the smaller figure into the larger, to destroy its visibility. (Lewin had opposed the factors of practice and set.) Previous practice with the part-figure had no effect on the frequency of seeing it in the complex unless—and this is the point—an attitude of search for the part-figure or an expectation of it had been aroused. Following Lewin and Ach, Gottschaldt insisted that such an attitude or expectation was not at all a product of past experience. Defining past experience as mere frequency or repetition, he could arrange subsidiary experiments to demonstrate that an expectation of the part-figure did not necessarily depend on the frequency with which it had been presented. Since the forces of organization plus the force of a determining

tendency explained his results, Gottschaldt was able to conclude that past experience, as defined, was as ineffective in perception as association had been shown to be in learning.

It is evident that Lewin and Gottschaldt believe that a set or attitude is not a result of past experience, whereas a majority of American psychologists believe that it is a product of past experience. The two concepts as understood by the two groups are far from congruent; they are not inclusive of the same phenomena. The experiments engendered in this country by Gottschaldt's research have been based on a broader conception of the factor of past experience and consequently on a different experimental control of this factor (*e.g.* 11, 86). Refutation of his conclusions has centered around the issue of *sensory organization vs.* past experience, which is a separate issue and a separate problem in the definition of concepts. But the relation between set and past experience is an underlying difficulty which will have to be straightened out before any agreement can be reached on the relation of organization to past experience.

It may be suggested, as the opinion of the reviewer, that Gottschaldt's distinction between the forces of attitude or set, on the one hand, and the forces of sensory organization, on the other, has proved just as embarrassing to Gestalt psychologists as the distinction between attitude and habit has proved to be to American functionalists. The ego-attitudes (vectors) of Lewin and the sensory organization of Koffka and Köhler are not easily reconciled (62, 66). The concept of set is just as confused when interrelated with the concept of organization as when interrelated with the concept of habit.

*Set in Relation to Transfer, Interference,  
and Retroactive Inhibition*

The facts of positive and negative transfer between two learning tasks have often been related to common sets, methods, principles, and the like even by proponents of the theory of identical elements. Theories of transfer in terms of the carrying-over of associative or stimulus-response connections have been supplemented by theories of the carrying-over of attitudes (94). Bray found, for example, that what actually was transferred from one mirror-task to another were *acquaintance* with the mirror-situation, *methods* of compensating and of avoiding overcompensation, *attitudes* of confidence, and the like (12). Interference has been ex-

plained in terms of conflicting associative tendencies and also in terms of conflicting sets. No inconsistency between these explanations has been felt because, in contrast with the German tradition, sets and attitudes were not conceived as abstract determining tendencies, but as concrete forms of learned behavior. A rigid distinction between the two concepts, it will be remembered, forced Lewin to the conclusion that an associative tendency alone could never produce interference; this was only possible between two determining tendencies.

It is possible to treat habit-interference without using the term *set*, avoiding entanglement with the older connotations. Siipola has investigated interference between code-substitution tasks in terms of common "superordinate levels" of the tasks. The "level," which would ordinarily be termed a method or a set, is conceived as a part of the structure of the two habits concerned and is shown to mediate reversion errors at a lower "subordinate level" (103). The notion of a task and its correlative habit as possessing an hierarchical structure has also been employed in Schwarz's investigation of interference (99).

Jersild (56) has investigated the interference with performance produced by shifting as compared with the continuous task-sets, utilizing the same task-material in both cases. For example, subjects had to alternate between adding and multiplying two numbers presented in a continuous series; in comparison they had to add numbers in one series and then to multiply in another. In the former situation a "superordinate" or more inclusive task-set had to be established. There was ordinarily a loss in efficiency, but when the two sets could be integrated into a single task there was no longer such a loss. Jersild concluded that learning involved the acquiring of a more comprehensive and articulated mental set for the activities learned. Dashiell (22) and Pinard (85) have employed the same method used by Jersild.

Retroactive inhibition, like transfer, is known to vary with the similarity of the learning activities involved, and experiments on the similarity problem in retroactive inhibition have been frequent (see 13 for references). But the *kind* of similarity existing between two learning activities has seldom been extended to include intentions, methods, and sets. Gibson and Gibson (31) demonstrated that similarity of the *task-set* determined retroaction independently of similarity of the learning material employed, and Waters and Peel (113) showed that similarity of *learning-method* functioned in the same way.

*Immediate Memory as a Form of Set*

The process enabling a sequence of light-flashes in different positions to be reproduced by the subject is taken to be a temporary set by Gundlach, Rothschild, and Young (38) and by Compton and Young (18). Immediate memory for a spatiotemporal pattern would probably not be classed as a form of set by many psychologists; nevertheless, the older term "memory span," the facts of which merged with those of the "span of attention," betrays a relationship.

## SET AS A DETERMINANT OF PERCEPTION

In no other field of psychology has the role of the determining tendency been so frequently investigated as in perception. As a determinant of perceptual processes, set is related to attention, and in this direction alone the list of relevant experiments could be extended indefinitely. An attempt will be made to describe only the more significant experiments.

*Selective Perception*

Külpe (63) demonstrated in 1904 that what is perceived in a tachistoscopic presentation of colored letters may be strikingly different from the colored letters presented. If the subject had been set to count the number of letters or to reproduce their spatial arrangement, the colors might be unreportable. Actual sensory qualities of the stimulus which were not relevant to the task-set were to all intents and purposes not seen. Perceptions with different sensory contents could result from different instructions to the subject. The attentive set functioned as a selective agent.

The special feature of Külpe's experiment was the inadequacy of the perception to other features of the stimulus than the selected one—features like color, which one might suppose to be insistent and dependent only on the stimulus conditions. The question arises whether the irrelevant features are really absent from the perception or whether, instead, they are simply forgotten by the time the experimenter asks the subject to report something he had not been "looking for." Chapman (16) has recently repeated the experiment with this question in view and finds that both factors are at work. The perception does actually conform to the *Aufgabe*; in addition, however, the process continues during primary memory, the irrelevant aspects of the presented stimulus fading in imagery. A set, therefore, operates both on perception and on primary memory.



*Prior Entry*

If one sensory content is favored over another by attention in the case of a single stimulus field, one content may well be favored over another in a "complication" of stimuli. Titchener (106) showed that, of two coercive stimuli occurring at the same time (a click and a pointer moving across a scale), the one for which the subject is set is perceived sooner than the one for which he is not. Needham (81, 82) has recently demonstrated prior entry for a single discrete sound heard against a background of a series of sounds. The phenomenon is therefore not a simple matter of the facilitation of one sensory nerve over another, since it occurs for similar stimuli within a single sense modality.

*The Perception of Nonsensical or Ambiguous  
Visual Stimulus Patterns*

That nonsense forms, reversible perspective figures, ink blots, and the like varied in perception with variations in the expectation or set of the subject has been a matter of common observation and elementary laboratory demonstration. Not only could the content of perception be selected by the set of the subject under certain circumstances; the organization, shape, and meaning of a visual perception could be determined by it. A generation ago, the doctrine of preperception could be used to explain such results. A pre-aroused visual image, present at the time of perception, assimilated the incoming sensory data and thereby determined the nature of the total perception. But the emphasis on pattern and sensory organization made by the Gestalt psychologists, and particularly the publication by Wulf in 1922 of a study on the reproduction of visual designs, aroused new theories and stimulated a new interest in the problem. There was initiated a series of researches centering on the issue of whether assimilative past experience or autonomous structural tendencies were the important determinants of form perception. The data of these experiments were the differences observed between the forms presented and the subjects' reproductions of these forms. The instructions given were simply to remember the forms. Most of these experiments have recently been summarized by Hanawalt (40), and the original experiment of Wulf has been described and interpreted by Koffka (62).

The issue remained unresolved, but what is here important is the fact that experimenters on both sides of the issue accepted the notion that an *attitudinal process* was a factor in the reproductions



of the subject. Both Wulf and Gibson (33) supposed that the "mode of apprehension" of the stimulus figure was a determinant of the reproductions. A figure was perceived as belonging to one, rather than another, type of thing (natural objects, geometrical forms, etc.), and this was conceived as an active process contributed by the subject himself. Gibson thought of the "mode of apprehension" as a perceptual habit developed by past experience, while Wulf thought of it as a stable mental structure.

It should be noted that, according to this conception, an attitude does not depend upon prior instructions to the subject as did the orthodox determining tendency. It occurs spontaneously after, not before, the stimulus presentation. What, then, is the difference between attitudes not aroused by instructions, including social attitudes, and the "voluntary" attitudes of the laboratory aroused by an *Aufgabe*? Some writers, particularly students of conditioning (47), have sought to make the defining characteristic of set its dependence on verbal instructions; the definition, however, appears arbitrary.

A number of experiments on form-perception exist in which the attitude, set, or expectation of the subject is controlled by the instructions of the experimenter, but the results are not different from those already mentioned. In these experiments the stimuli are ambiguous, and the instructions usually favor apprehension in one of two alternative ways. For example, Carmichael, Hogan, and Walter (14) presented visual forms intermediate between two familiar shapes. By suggesting to different groups of subjects that the form would resemble one or the other familiar object ("eye-glasses" or "a dumbbell") they obtained deviations of the reproduction in the direction of the shape named. They interpreted the results in terms of a "dynamically considered process of association," which illustrates once more the close relationship between set and learning in American psychological thinking.

One of the most striking demonstrations of the role of set in visual perception is that of Zangwill (123). His subjects were first shown one series of six ink blots with instructions to look for and then draw *an animal*, and then were shown a second series with instructions to look for and draw *mountain scenery*. One "critical" blot from the first series was introduced into the second. But the perception of this blot was so thoroughly modified by the new interpretive set that it was not even recognized as familiar by 64% of the subjects. (In a control experiment where the subjects were al-

ways set for *either* animals or mountains, only 10% failed to recognize the critical blot.) Two different sets could produce two quite different perceptions from the same stimulus pattern. Zangwill equates the set with a *schema* which is an organized body of past experience—in this case, past experience of animals or of mountains. This conception had been formulated by Bartlett, who has demonstrated that *schemata*—that is to say, organized sets, attitudes, or habits—dominate not only perception but also remembering, recalling, and imagining. The process of recognizing, in fact, rests upon the carrying-over of the same set from the old to the new presentation (5). (See also 68.) In this view, a set is something permanent, involuntary, independent of instructions and even of verbalization—a far cry from the *Einstellung* of the Würzburg laboratory and of Külpe's original experiment.

Zangwill's experiment may usefully be compared with one by Leeper (64) where a quite different notion of mental set prevails. Leeper employed Boring's ambiguous composite picture of "the wife and the mother-in-law"—two alternative faces in the same picture. A prior showing of the wife (so drawn as to destroy the face of the mother-in-law) or of the mother-in-law (so drawn as to destroy the wife) determined the way in which the composite itself would be perceived. Leeper wished to interpret this result as due to perceptual learning of one of the faces instead of to the set of the subject for one of the faces; *i.e.* he distinguished between learning and set. He attempted to eliminate the latter possibility by repeating the experiment with the following modification: the presentation of the ambiguous picture was delayed for two weeks after the showing of the unambiguous picture and was made in a different context. Since the results were the same, Leeper concluded that he had demonstrated perceptual learning rather than set. The defining characteristic of set is here the assumed one that a set is "temporary" or short-lived—an assumption that is contradicted by other evidence, as will appear later.

Gottschaldt, as already mentioned, performed a somewhat similar experiment (34, 62) to prove that a somewhat similar result was *not* due to perceptual learning but *was* due to the set of the subject. He projected on a screen a simple ambiguous figure (*e.g.* cross or square) using a variable episcotister to bring the image gradually up to the point of liminal distinctness. Whether the subject would first see the cross or the square was not dependent on the frequency of pre-exposures of the cross or square but on the sub-

ject's *expectation* (attitude, vector) for one or the other. This expectant set was produced by a regularity in the order of presentation (e.g. simple alternation); hence, temporal sequence or regular order is for Gottschaldt an experimental criterion for establishing a set.

The distinction between perceiving what one expects to perceive and perceiving what one is used to perceiving is equally difficult to draw in the case of an experiment by Siipola (102). She first demonstrated that a preparatory set produced by instructions will determine in which of two ways an ambiguous word such as "sael" will be perceived. Presentation was by a tachistoscope; the phenomenon is similar to the proofreader's error. If the subject is set for animals he will read "seal"; if he is set for boats he will read "sail." "Wharl" will be "whale" or "wharf," "dock" will be "duck" or "deck," etc. Such results are not surprising, but Siipola went on to prove that the set for a certain category of words, a sort of general denotation (cf. Bartlett, 5), persisted after the completion of the task and affected a subsequent separate task. In this task skeleton words like "-oat" would be completed as "goat" or as "boat" according as one or the other category had earlier been set up. The set, in short, persisted beyond the *Aufgabe* in which it had originated; it was not voluntary, and it was not always verbalized. These facts are in accordance with results of Rees and Israel (91), who found that a set for a certain kind of anagram-solution could be involuntary, un verbalized, and could be established without the use of instructions and without the awareness of the subject simply by training in that particular method of solution. Their experiments will be described later.

The fact that sets may persist or "perseverate" and are not necessarily temporary has also been demonstrated by Kendig (60), who found that a set to think of words beginning with the letter C persisted for several days, and also by Kellogg (58), who found that an unconscious posthypnotic set to breathe fast on even-numbered pages of Edna St. Vincent Millay and slow on odd-numbered pages persisted for at least two months. After two months Kellogg gave up testing. As has already been suggested, the concept of set in experimental psychology is at once ambiguous and ubiquitous.

#### *Other Varieties of Set Operating in Perception*

The miscellaneous nature of the determinants of perception classifiable as set may be illustrated by a few final examples. Dear-

born found in 1898 that the occupational habits or interests of the subject determined his apprehension of ink blots. The same blot might be an animal to a farmer and a landscape to an artist (24). Murray has recently proved that the effect of mildly frightening a group of children (by having them play a game of "murder") is to produce distortions of meaning in the perception of faces. The frightened children rated the maliciousness of news photographs higher than they did when not frightened (80). Sanford has shown that when his subjects were hungry, ambiguous pictures of people doing things were interpreted in terms of eating behavior more than twice as often as when they were not hungry (96). So sensitive, in fact, is the visual perception of ambiguous stimuli to these more permanent sets of the subject—occupational interests, emotions, drives—that the psychiatrist has found the experiment diagnostically useful. The "projective methods" and the Rorschach test are illustrations.

#### SET IN RELATION TO HUMAN PROBLEM-SOLVING

One of the principal demonstrations of the Würzburg laboratory was the directed character of thinking and reasoning. The thought processes were found invariably to include sets, determining tendencies, and conscious attitudes, and this continued to be true, although a disagreement arose over whether these trends were or were not imageless. It has never been clear, however, whether the thinking process was directed by another process or whether the thinking process was itself simply characterized by directedness. Writers who accept the latter alternative in theory are usually forced back upon the former alternative when they do an experiment.

Evidence for the effect of mental set on problem-solving is plentiful. It need not be summarized here, particularly since E. Gibson and McGarvey (32) and Woodworth (118) have recently given accounts of the research on thinking with due emphasis on this factor. The nature of direction and determination, or of directing and determining tendencies, is still as obscure as it was 40 years ago. The terminology is highly variable, including such roughly equivalent terms as need, method, hypothesis, disposition, schema, trend, and atmosphere. Maier, for example, employs the term "direction," by which he means a way of looking at the problem (70, 71). A direction is thought of as a process; when it occurs, previously isolated units of past experience become reorganized in an "in-



sight." Failure in problem-solution is frequently due to an inflexible direction which blocks the correct way of looking at the problem.

Two experiments in this field are distinguished for having experimentally isolated different forms of set or attitude. One, by Rees and Israel, employed the solution of anagrams; the other, by Sells, dealt with syllogistic reasoning. Rees and Israel (91) worked with two kinds of set; the first was a tendency to rearrange the order of letters for any presented anagram in a particular fashion, *e.g.* 32145, while the second was a tendency to search for solutions within a certain conceptual category, *e.g.* "nature" words, or "eating" words (compare Bartlett's "schemas"). Both types could be established without instructions by presenting a list of anagrams having unique solutions: in the one case, solutions in a particular letter-order and, in the other, solutions with a certain meaning. The order-set was usually involuntary, un verbalized, and unconscious. The category-set might be either automatic or accompanied by verbal awareness and a voluntary attitude of search; it was equally effective in either case. The effectiveness of the two kinds of set could be measured in terms of the frequency and quickness of appropriate solutions in a list of anagrams having non-unique solutions—that is, in terms of selection and facilitation of solutions. When the order-set and the category-set were opposed to one another in a list of anagrams having either an order-solution or a category-solution, the former proved to be much the stronger. Since the process of anagram-solving is primarily the rearranging and manipulating of letters, and only secondarily the searching for possible solution-words, the authors suggest that this result is the one to be expected.

It should be noted that these sets, particularly the first type, arise spontaneously out of the problem-situation itself; they are not necessarily induced by instructions or even by self-instructions, although they *may* be so induced. They do violence to the prevalent concept of "voluntary" set as exemplified in the reaction experiment, yet they function with equal effectiveness.

Sells (100) has comprehensively analyzed a type of set, induced by the premises of a syllogism, which tends to determine the conclusion quite apart from logical validity. For example, an attitude of affirmation or one of negation is unconsciously set up in the subject, and this favors a conclusion which "sounds like" the premises. This "atmosphere-effect," as Woodworth and Sells (119) called it,



is shown to be a strikingly effective determinant of erroneous conclusions, although, in common with the sets of Rees and Israel, it was involuntary, un verbalized, and unreportable by introspection. In this respect at least, these forms of set are similar to the more personal attitudes and motives which make for *rationalizing*.

#### THE EXPERIMENTAL INVESTIGATION OF THE NATURE OF TASKS

The dominant role played by the concept of attitude, intention, volition, or purpose in Lewin's system of psychology, association having been eliminated and learning minimized, has been reflected in a series of experiments performed by his students on the characteristics of tasks. A few of these experiments, together with some relevant evidence from other sources, should at least be mentioned in any review of attitudinal concepts; the topic deserves, however, a separate and extended treatment.

For Lewin, a task-activity involves something like an actual need or drive. There is present a "tension-system" which presses toward a resolution, not by a specific action but by any appropriate behavior. Ovsiankina (83) has shown how a task-set motivates the completion of the task by measuring the tendency of subjects spontaneously to resume an interrupted task at the end of the interpolated period. This conception of a tension persisting in the face of interruption is consistent with the experiment of Morgan (75) on the overcoming of distractions, where it was shown that heightened effort and increased muscular tension are the result of distracting stimuli, with frequently an actual increase in efficiency of performance. These results have recently been corroborated by Fryer (29). The unrelieved tension of an interrupted task may be relieved in varying degrees by the interpolation of another task, the spontaneous resumption of the original task being negatively correlated with the similarity of the substitute task to the interrupted one (66, Chap. 6). Kendig (60) has shown, however, that task-resumption, or perseveration, is not necessarily the result of an interruption of the task, inasmuch as she observed perseveration for a certain type of completed task (described earlier). This fact suggests a habit theory rather than a tension theory of the task-set.

Karsten (57) has investigated the effects of repeating an activity as long as the subject will continue. A task-set will by no means motivate activity indefinitely; the endlessness of the task

itself sets up tensions which prevent its continuation, or produce "satiation." The phenomenon is interestingly related to the "quantitative set" of Bills and Brown (7). The amount of work which the subject faces in a monotonous task such as addition, the set for a long pull as compared with a short spurt, will affect the shape of the work curve in that task. Long tasks start at a high level, but show a large drop in performance. But if a continuous long task is broken up into shorter ones by even as artificial a means as having the subject shift his work to the other side of the paper at intervals, efficiency is improved. It is worth noting that in all the foregoing examples a task-set or intention appears not simply as a selecting or directing agent in behavior but as a motivating and energizing force.

The principle that sets and intentions occur in higher and lower orders which form a hierarchy has been illustrated by Birenbaum (8). A collateral set of the subject to write his name at the top of the sheet of paper used for the main task was effective or ineffective for behavior according as the collateral set was or was not integrated into the main set. During a series of similar tasks the subject would always write his name; upon the presentation of a different type of task he would frequently fail to write his name.

The question may well be asked, if the task is assumed to motivate a family of subordinate sets and particular acts, then what motivates the task? Can the motivational character of the *Aufgabe* simply be included in it by definition? A still larger and more disturbing question opens up as to why subjects consent to perform tasks in psychological laboratories. Apart from speculative discussions, the most useful suggestion is derived from the concept of the level of aspiration, which implies a complex socially conditioned attitude toward tasks and a need for "success." (See Gould, 35, for references.)

#### PREPARATORY SET IN THE HUMAN CONDITIONING EXPERIMENT<sup>1</sup>

The field of psychology in which concepts like set, attitude, expectation, and voluntary intention are attracting the greatest interest and producing the most heated controversies is at the moment that of the conditioned response. The distinction between automatic association and voluntary set is more clearly drawn in

<sup>1</sup> This section of the review has been planned and written in collaboration with Eleanor J. Gibson.

the conditioning experiment than it is in other types of learning experiment, and this conceptual dichotomy is all the more insistent because students of conditioning hoped for a considerable time to be able to dispense entirely with set.

By now, a series of experiments, particularly on hand-withdrawal to electric shock, have made it clear that the development of a conditioned avoidance response is unavoidably related to the attitude of the subject. As long as 20 years ago, Hamel (39) concluded that in his situation the "conditioned" hand-withdrawal was essentially voluntary and that "insight into the conditions of the experiment" was a controlling factor. Schilder (97) discovered that his subjects adopted an intention not to react to the conditioned stimulus alone and felt ashamed when they occasionally did so. He gives full introspective reports which indicate that complex attitudes were present and determined the reactions to a light and shock combination. Hilgard (41), Freeman (26), and Schlosberg (98) employed other types of reaction than hand-withdrawal, but also found that preparatory attitudes of the subjects were bound up with human conditioning. Within the last 10 years the relation of preparatory set to conditioning has been accepted as a fact and recognized as an important systematic problem. The situation is similar to the one which faced Ach and his successors in trying to deal with the relation of the determining tendency to the associative tendency 30 years ago, although the facts refer to conditioned responses rather than to verbal associations.

Three points of view seem to be current for the interpretation of this relationship. The first solution is to insist that pure conditioning and mental set are different processes, wholly unrelated to one another. The second and third solutions are attempts to comprehend both concepts in one system, but only by explaining preparatory set as a form of conditioning or by explaining conditioning as a form of preparatory set, thus neatly canceling each other out.

#### *Mental Set Unrelated to Conditioning*

Schlosberg (98), in 1932, was impressed with the difficulty of setting up CR's in human subjects simply by paired repetitions of the conditioned and unconditioned responses; he concluded that the CR is behavior broken off from normally integrated activity and that the experimenter must isolate it in order to rid his experiment of the obscuring effects of attitudes and volition. Cason (15), emphasizing the variability of human conditioning, suggested that

discrepancies are explained by "the causal influence of verbal activities" (p. 571). Razran represents an extreme form of this point of view (88). He found human salivary conditioning largely absent when his subjects were instructed not to form associations and present only when they were either instructed to form associations or were absorbed in some other task. He believes that pure conditioning is an animal form of learning, present in human subjects only when symbolic attitudinal behavior is weakened or absent (89, p. 335). Attitudes account for the "heterodox manifestations" of conditioning; orthodox conditioning, however, is unaffected by attitudes (90, p. 267).

#### *Preparatory Set as a Form of Conditioning*

Hull's position is that mental sets or "directing ideas" can be accounted for in terms of the conditioned response; they are reducible to fractional anticipatory goal-responses (50). The anticipatory character of the CR does not have to be explained by an external concept of set or attitude, since it is a primary and fundamental characteristic of the CR itself (49). Somewhat similarly, Hunter (54, 55) has argued that voluntary action is "essentially a conditioned response under the control of self-excited receptor processes." The evidence is that conditioned and voluntary responses have been shown to be similar in latency and form, and also that a subject may gain voluntary control over a hitherto involuntary response by a process of conditioning (48).

#### *Conditioning as a Form of Preparatory Set*

In precise opposition to Hull, Tolman (108, 109, 110) explains the anticipatory character of the conditioned response by an expectation which the subject arrives at in the course of the paired stimulations. This expectant set is frequently called an hypothesis. The organism selects cues of greater or lesser reliability in its environment, and learning consists in the formation of such cognitive expectations. Zener (125) has proposed a somewhat similar view. This expectancy theory can be extended to apply to various aspects of conditioning such as extinction; Hilgard and Marquis have described the theory in some detail (47).

#### *Expectation and Intention as Separate Problems in Conditioning*

It has at least become clear from the earlier sections of this survey that whatever an attitude is, it is not a simple and unique proc-



ess. Two of its general forms which could usefully be distinguished, particularly in the reaction experiment, were expectation and intention. It is possible that some aspects of the above theoretical merry-go-round might be clarified by a distinction between an expectation of certain stimulus objects and an intention to act in a certain way. For example, Hunter's theory relates conditioning to an intention to act, since he is interested in explaining voluntary behavior, but it does not refer to expectations. On the other hand, Tolman's theory relates conditioning to an expectation without reference to intention; what is learned in a typical conditioning experiment is an expectation of shock upon hearing a bell. Culler apparently thinks of the CR as a preparatory response, which includes both types of set, but emphasizes intention. "The bell without shock becomes ever more a safety signal (stay *on* the grid!) even as, when combined with shock, it becomes an ever stronger danger signal (get *off* the grid!)" (20, p. 151).

Evidence for the functional separability of the set for a stimulus and the set for a response may be found in the reaction experiment already described and also in the conditioning experiment itself. Schilder (97) obtained introspective evidence for such a distinction using withdrawal to shock. All his subjects reported an expectation of the shock when the light flashed which developed early in the experiment. The intention which developed, however, the subjects being uninstructed, was not what Culler's description would lead one to suppose; it was an intention *not* to withdraw the hand. One or two subjects reported an involuntary tendency to withdraw, but were ashamed of it and redoubled their efforts to inhibit. This inhibitory intention has been reported by several experimenters for human conditioning. It seems clear that a positive expectation may be accompanied by either a positive or a negative intention and that hence the two forms of attitude should not be confused.

Hilgard and his students (44, 45) have done experiments which are outstanding, among other respects, in that they separate clearly the problem of expectancy in relation to conditioning from the problem of voluntary intention in relation to conditioning. Instead of redemonstrating the complicating influence of "attitude" on pure conditioning or trying to reduce the one to the other, they have investigated independently the effects of stimulus expectation and of response intention. The experiments deal with discriminative eyewink conditioning. In one the subjects are given "knowl-



edge of the stimulus relationships" (44); in the other they are given voluntary sets to react and not to react to the stimuli (45). The results of the two kinds of attitude induced are quite different, and the authors observe that the control of response by expectancy of stimulus objects is not to be confused with control of response by specific intentions.

We shall classify the experiments to be considered henceforth into two sections: those bearing on the expectancy problem, and those bearing on the problem of the relation of voluntary intention to conditioning.

#### *The Setting Up of Expectancy Without Paired Stimulation*

In a number of experiments an expectation can apparently be set up immediately by information given the subject or by comprehension of the situation itself. The "conditioned" response appears without double stimulation and shows no progressive increase with repetition. A galvanic skin reflex to an indifferent stimulus has been produced merely by telling the subject that the stimulus will be followed by a shock (19) and also simply by the application of electrodes (76). Extinction is brought about by reversing the situation. Cole (17) found that the eyelid reflex was "conditioned" in 12 of 19 sophisticated subjects before any paired stimulations were given. Cases of so-called sensitization (6, 36) and of pseudo-conditioning (37), where no paired reinforcement is given, may also be explained by attitudes of expectation.

If a conditioned response is defined as Hilgard and Marquis define it—"any new or altered response to the conditioned stimulus whose occurrence depends upon repeated double stimulation" (47, p. 27)—then it is obvious that the cases listed above cannot be considered to be CR's. Nor are they cases of learning if practice is, by definition, the pertinent factor in bringing about modification. Mowrer has made this point (76).

#### *Expectancy Correlated With Paired Stimulations*

A second group of experiments can be cited to show that a correlation exists between the course of conditioning and the course of acquiring an expectation. Hilgard, Campbell, and Sears (43, 44) found that the more successful discriminators in a conditioned discrimination experiment were also the more prompt in reporting insight into the order of the stimuli and that knowledge assisted

discrimination. They suggest that gradual increase in success of discrimination may correspond to the gradual establishment of the probabilities of the situation. Kellogg and Wolf (59) say that persistent patterns which they call hypotheses occurred during the flexion conditioning of dogs. These suggested relationships are perfectly consistent with the definition of learning and merely constitute a special hypothesis as regards the role of the paired stimulations—that they are essential for permitting assessment of the probabilities of the situation (cf. Tolman, 109). More elaborate parallels between conditioning and expectation have been drawn by Humphreys, who found that extinction of the conditioned galvanic skin reflex and of the eyelid reflex was slower following reinforcement on half the trials than it was following reinforcement on *all* the trials (51, 53). He explained the slower extinction of the 50% group as due to difficulty in forming an hypothesis of continuous nonreinforcement after discontinuous reinforcement during acquisition. He then checked his explanation by studying acquisition and extinction of purely verbal expectations in a situation analogous to conditioning (52) and found a similar difference in extinction following 50% and 100% reinforcement. He concluded, however, that expectancy was only one of the influential variables.

#### *Discrepancies Between Conditioning and Expectation*

An identification of all conditioning with an attitude of expectancy, however, runs into certain difficulties. A close correlation of expectancy with measured conditioning is by no means the rule. Schilder's experiment, already described, shows that an expectation may develop in the absence of overt conditioned tendencies to respond. Cole (17) found that an insight into the order of reinforcement and nonreinforcement, with a clear discrimination-set, could be present unaccompanied by conditioned discriminatory responses. The reverse may also be true in that conditioning may be present without evidence of expectancy. Hilgard and Humphreys (46) discovered that an automatic conditioned discrimination of the eyelid response was retained over a period of 4 to 19 months despite an almost complete verbal forgetting of the stimulus relationships. They suggest that a habit, although aided by verbal expectancy during acquisition, may become established at a nonverbal level. The facts of conditioning and extinction in decorticate and even spinal animals (21, 101) would make it very difficult for an expectancy theory to define precisely what is meant

by expectancy. It must be concluded that the relation between attitudes of expectation and associative forces produced by paired repetitions has not yet been clarified. Cutting across this relationship and difficult to disentangle from it is the relation of stimulus-expectation to voluntary intention and to involuntary tendencies for specific response. Another class of experiments dealing with this problem will be taken up next.

#### *The Relation of Conditioning to Voluntary Intention*

It will be remembered that Ach, and afterwards Lewin, attempted to pit the force of a determining tendency against that of an associative tendency in order to measure the will in comparison with associative habit. For example, a new intention to rhyme a nonsense syllable was compared with the tendency to give its habitual associate. The experiment was intricate, laborious, and only indifferently successful; it led Lewin to reject the associative tendency entirely.

Hilgard and Humphreys (45) have taken up this problem in the conditioning experiment where, assuming an independent associative tendency to exist, the force of associative habit is more precise and measurable than it is in the verbal learning experiment. The results are in disagreement with those of Lewin. The experiment was a conditioned eyewink discrimination based on two easily discriminable light-stimuli and reinforced by a puff of air to the cornea. Having already treated the problem of stimulus-expectation (44), Hilgard gave two groups of subjects instructions which produced voluntary intentions contrary to the associative tendencies produced by training. One group was set to wink to the *negative* stimulus but to inhibit any tendency to wink to the *positive* stimulus; the second group was set to inhibit all winks. In neither group were the conditioned tendencies overridden by the "determining tendencies." The winks to the positive stimulus continued and even *increased*, despite the intentions, although somewhat reduced in frequency. The winks to the negative stimulus, on the other hand, appeared or did not appear in accordance with the instructions given the two groups. Hilgard has made an analysis based upon algebraic addition of the tendencies present in the situation, conditioned tendencies and voluntary tendencies, both positive and negative (42). One conclusion is that while a negative voluntary tendency may be opposed to the positive conditioned tendency, the reduction in frequency of conditioned responses is small.

The present account is much oversimplified; to make an even further oversimplification, it may be suggested that Hilgard found his conditioned tendency to be about five times the strength of the inhibitory volition.

Present information about the relation of conditioning to voluntary intention does not point to any parallel between this and the relation of conditioning to expectancy. Intention can be thought of as a distinct process. Conditioning can be established in many situations in the face of inhibitory intentions; in fact, there is evidence that human subjects usually adopt such an inhibitory set in a conditioning experiment. Nor is conditioning always dependent on a positive intention. The situation here may be contrasted to that in verbal learning, where at least the phenomenon of intention to learn is prominent.

#### *The Conditioning of Voluntary Reactions*

A dichotomy is always, however, unsatisfactory, and efforts to reconcile the CR with voluntary action continue to be made. They have recently taken the form of attempts to show that the voluntary quick-reaction employed in measuring reaction time can be conditioned to an indifferent stimulus or, otherwise stated, that a conditioned response can be set up using a voluntary act as the reinforcement (72). Experiments of this sort have been made by Rexroad (92, 93), Wickens (115), Yacorzynski and Guthrie (121), Marquis and Porter (72), and Stephens (104).

The hypothesis underlying these attempts must be that conditioned responses and voluntary reactions are basically not different in kind and that, if one could show conditioning phenomena with voluntary responses, this view would be supported. It is connected with a line of thought given impetus by Peak (84), who demonstrated that the various criteria for distinguishing voluntary and involuntary responses were not consistent with one another.

What these experiments have investigated, speaking generally, is the extent to which a voluntary reaction will be elicited by a "noninstructed" stimulus presented repeatedly at a uniform interval before the stimulus to which the subject is instructed to react. In the first two experiments this extraneous stimulus came to function as a ready-signal (92, 115). In these, the subjects made what would be called premature reactions in a reaction experiment—that is, reactions based on the uniform time-interval. (See the earlier discussion of this question.) In the third experiment the



extraneous stimulus apparently functioned as a substitute for the instructed stimulus and touched off reactions which would be called false reactions in a reaction experiment (121). In the former experiments there was evidence of a progressive increase in the "conditioned" responses with training, but in the latter experiment there was no such increase.

Certain objective characteristics of the "conditioned" responses obtained in the latter experiment verify the assumption that they are false reactions rather than true conditioned reactions. First, their frequency actually decreased as the experiment progressed; and second, the latency of these reactions was very short, suggesting that they occurred only when they were too rapid to be inhibited. These are just the characteristics that are possessed by false reactions to extraneous stimuli in a reaction experiment (30). Such reactions occur, of course, without any hint of paired presentation along with the instructed stimuli and hence cannot be considered conditioned. According to E. Gibson (30) they are instances of sensory generalization.

In the fourth experiment (72) the "conditioned" reactions are recognized to be false reactions by the experimenters themselves. However, in one of the sub-experiments calculated to hinder the subject from discriminating between the instructed and the extraneous stimulus, there was some evidence of an increase of these false reactions with time. The fifth experiment is too complicated to be described here and bears on the problem only incidentally (104).

If our interpretation is correct, the experiment of Yacorzynski and Guthrie (121) and probably that of Marquis and Porter (72) cannot be said to show conditioning of voluntary reactions, since there is no evidence that the purported conditioning was due to paired stimulation. Wickens (115) and Rexroad (92) do report a progressive increase in the anticipatory or "premature" reactions of their subjects, but this is probably the same kind of learning which would occur in a reaction-time experiment having uniform preparatory intervals. An analogy with conditioning is not impossible. In none of the experiments, however, is there a satisfactory basis for any transition from conditioned to intentional reactions. It may be questioned whether the successful conditioning of a voluntary reaction would, in any case, clarify the situation. An intentional response would become, through training, an automatic response to another stimulus. But then it would cease to be a vol-

untary response, and the purpose of the demonstration would have evaporated.

### *The Voluntary-Involuntary Dichotomy*

The common assumption on which the above experiments are based is that there is no sharp distinction between voluntary and reflex action and that the terms 'voluntary' and 'involuntary' refer only to the extremes of a distribution (47, 84). The difference is implied to be one of degree. But degree of what? The actual stages which are supposed to lie between these extremes are, when examined, nothing but products of the various inconsistent criteria applied to the two terms. An example may be given of three introspective criteria applied to some familiar responses. It is evident that there is no continuum of voluntariness, but only various

	Initiated by Intention?	Inhibited by Intention?	Experienced or Conscious?
Pupillary reflex	No	No	No
Knee-jerk	No	No	Yes
Rhythmic breathing	No	Yes	Yes
"Voluntary" reaction	Yes	Yes	Yes

meanings which the term *voluntary* might have. These three criteria are not necessarily the most significant. Others might be found. But the assumption of a quantitative transition between two pure extremes only obscures the search for the real variables which might clarify the problem. Voluntary intentions cannot be incorporated into conditioning theory simply by conceiving a continuity between them. If a contradiction between them exists, it is better to recognize the contradiction than to soften or compromise it as the experimenters on voluntary conditioning have tended to do.

It should be noted that the voluntary-involuntary problem as it appears in the field of conditioning is not really simplified by defining voluntary as meaning "dependent on a set established by instructions." A set may itself be voluntary or involuntary, and it may or may not be established by instructions.

### CONCLUSIONS

A survey has been made of experiments on reaction time, association, learning, perception, thinking, task completion, and conditioning in the effort to discover a common nucleus of meaning for the term *mental set* and its variants. No common meaning can be

discerned, but, instead, a number of ambiguities and contradictions have become evident. The term *set* has been found to be correlated with different things. The following examples may be given in summary: (1) a prearoused expectation of stimulus objects, qualities, or relations (perception experiments); (2) a conceptual schema, not expected, but aroused by the stimulus-pattern (form-perception); (3) an expectation of stimulus relationships either prearoused or acquired during repeated stimulation (conditioning experiments); (4) an intention to react by making a specific movement, or not so to react (reaction-time and conditioning experiments); (5) an intention to perform a familiar mental operation (multiplying, memorizing, giving an opposite word); (6) a mental operation or method, not intended, but aroused by the problem or learned in the course of problem-solving (thinking experiments, transfer experiments, Rees and Israel); (7) a tendency to complete or finish an activity (Lewin); (8) a tendency to go on performing an activity after the occasion is over (perseveration).

A number of common assumptions about mental set sometimes used in attempts to define the concept are seen to be false. It cannot be defined as established by, or dependent upon, verbal instructions, since equivalent results can be obtained with procedures which substitute for instructions training, or a regular sequence of events (19, 34, 76, 91, 102). It cannot even be assumed to be aroused by self-instructions, since it may be un verbalized and may even be unconscious. It cannot always be characterized as temporary, since it may outlast the task which occasioned it. It cannot always be defined either in terms of a predisposition for reaction or for perception, since these are semi-independent.

The most crucial ambiguities, however, have to do with the relation of set to past experience or habit and with the characterization of a set as voluntary or involuntary. Both problems require an experimental analysis which systematically varies the attitudinal factor. The voluntary-involuntary problem requires the specification of definite criteria and the consistent use of them instead of merely the words themselves.

Several systematic controversies in contemporary psychology hinge on the interpretation of the above concepts—controversies over past experience *vs.* organization, cognitive expectation *vs.* anticipatory goal-responses, and tensions *vs.* conditioned responses. The controversies cannot be resolved until psychologists come to grips with the experimental analysis of phenomena like attitude, set, intention, and expectation.

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## PROFESSOR THURSTONE, A CORRECTION

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In Professor Thurstone's recent "Current issues in factor analysis" this eminent author has taken into consideration, among other things, the general factor commonly known as *g*. But, unfortunately, he has based his argument on a surprising misconception of this value. He takes it to mean "nothing more or less than the *average of all* the abilities called for by the battery as a whole."<sup>1</sup> But in truth the statistical meaning of *g* has always been *defined* by the following equation (including the conditions of its validity):

$$m_{ax} = r_{ag} \cdot g_x + r_{as} \cdot s_{ax},^2$$

And neither this equation nor its proof contains, or even implies, any averaging whatever; as little does it essentially involve "all" the abilities called for by the battery. The sole way in which the averaging procedure ever does enter into the determination of *g* is *incidental*; its function (as in statistics generally) is merely to reduce irrelevant random deviations. Apart from these, the determination of *g*, far from needing "all" the abilities in a battery, is completely satisfied by any not-too-similar *four* of them.

This misunderstanding between Professor Thurstone and myself is the more to be regretted, since in most other respects I am in cordial agreement with his present words. Indeed, I find them more in accordance with what I have long written myself than with what he himself has done previously.

<sup>1</sup> *Psychol. Bull.*, 1940, 37, 208. (Italics mine.)

<sup>2</sup> This equation, as also the signification of the terms employed, is given in the *Abilities of man*, page xiv, proposition (17), and repeatedly elsewhere. For the essential proofs, see the same work, pages ii-vi.

PROCEEDINGS OF THE FORTY-NINTH ANNUAL  
MEETING OF THE AMERICAN PSYCHOLOGICAL  
ASSOCIATION, INC., NORTHWESTERN  
UNIVERSITY, SEPTEMBER  
3, 4, 5, 6, 1941

REPORT OF THE SECRETARY, WILLARD C. OLSON,  
UNIVERSITY OF MICHIGAN

The American Psychological Association, Inc., held its Forty-ninth Annual Meeting at Northwestern University, Evanston, Illinois, on September 3, 4, 5, and 6, 1941. A total of 1218 persons registered, 243 being Members, 512 being Associates, 68 being newly elected Associates, 21 being newly elected and transferred Members, and 374 being persons not affiliated with the Association.

An analysis of the registration by geographical districts and states is as follows: New England States, 61 (Connecticut 26, Massachusetts 24, Rhode Island 6, New Hampshire 3, Maine 1, Vermont 1); Middle Atlantic States, 201 (New York 115, Pennsylvania 56, New Jersey 28, Delaware 2); South Atlantic States, 92 (District of Columbia 37, Maryland 15, Georgia 3, North Carolina 12, Florida 4, West Virginia 1, Virginia 18, South Carolina 2); East North Central States, 549 (Illinois 290, Indiana 53, Michigan 62, Ohio 110, Wisconsin 34); East South Central States, 50 (Kentucky 18, Tennessee 10, Mississippi 3, Louisiana 14, Alabama 5); West North Central States, 168 (Iowa 59, Kansas 23, Minnesota 51, Missouri 27, South Dakota 1, Nebraska 7, North Dakota 0); West South Central States, 16 (Arkansas 3, New Mexico 1, Texas 9, Oklahoma 3); Mountain States, 22 (Colorado 13, Wyoming 2, Arizona 0, Montana 1, Utah 6, Nevada 0); Pacific States, 37 (California 27, Oregon 2, Washington 6, Idaho 2); Canada, 14; England, 1; India, 1; not stated, 6.

The Program for the meeting was printed as the July, 1941, issue of the *Psychological Bulletin*. With a few exceptions the program of 24 scientific sessions, 4 round tables, and 182 papers by Members and Associates was presented as scheduled. Dael Wolfe presided as Chairman of the section on "Aptitudes" in the absence of Truman L. Kelley, and Elmer Culler presided as Chairman of the section on "Learning in Animals" in the absence of John F.

Dashiell. A joint paper by Norma Ford and Sylvia Frumkin and papers by E. H. Porter and William E. Kappauf were withdrawn with satisfactory letters of explanation.

The Program Committee arranged for a session on research and instructional films on Wednesday evening, and the 13 films were presented as scheduled. A round table on "Projective Techniques" under the chairmanship of David Rapaport was conducted on Thursday with 10 participants as published in the Program except for the absence of Laurretta Bender, E. Homburger Erikson, and Mrs. E. L. Horowitz.

Herbert Woodrow delivered his Presidential Address on "The Problem of General Quantitative Laws in Psychology" on Friday evening, September 5, in Cahn Auditorium. After reviewing various attempts at generalized statements, he presented a formula which appeared to fit a variety of data on learning. President Leonard Carmichael presided at the meeting and suggested that the generalization might properly be known as "Woodrow's Law." The address was followed by a reception in the Women's Lounge of Scott Hall at which psychologists at Northwestern University were hosts to the Association, affiliated societies, and guests.

The influence of the war was reflected in various meetings of the Association and affiliated societies. On Monday the Industrial Section of the American Association for Applied Psychology sponsored a session on "Applied Psychology in National Defense." The Society for the Psychological Study of Social Issues sponsored a round table on Wednesday on "The Psychological Bases of National Morale" and a second one on Thursday on "Public Opinion."

The Program Committee of the American Psychological Association sponsored a round table on "The Psychologist in National Defense" under the chairmanship of Dr. Walter R. Miles, the Association's representative to the Emergency Committee in Psychology of the National Research Council. The following persons participated in the round table; Colonel C. Brock Chisholm, Director, The Directorate of Personnel Selection, Canadian Forces; Wing Commander Edward A. Bott, University of Toronto; Dr. Walter V. Bingham, Chairman, Advisory Committee to the Adjutant General's Office on the Classification of Military Personnel, National Research Council; Lieutenant Commander C. M. Louttit, U. S. Naval Medical School, Washington; Dr. Leonard Carmichael, Director, National Roster of Scientific and Specialized



Personnel, Chairman-elect, Division of Anthropology and Psychology, National Research Council; Dr. Karl M. Dallenbach, Chairman, Emergency Committee in Psychology, National Research Council; Dr. John G. Jenkins, Chairman, Committee on Selection and Training of Aircraft Pilots, National Research Council; Major John C. Flanagan, Division of Scientific Research, Office of Chief of Air Forces, U. S. Army, Washington.

With the assistance of Dr. Walter V. Bingham, Chief Psychologist in the Adjutant General's Office, the Program Committee invited Brigadier General William C. Rose of the Adjutant General's Office to attend a luncheon meeting on Friday, September 5, to discuss the services of psychologists in the Army. The meeting was held at the North Shore Hotel and was attended by several hundred persons, including a group of psychologists and personnel officers from the Canadian and American Armies. Walter Dill Scott presided at the meeting. A large group of past Presidents of the Association, numerous psychologists active during the last World War, and many now active were present.

The Psychometric Society held its annual meeting in conjunction with the meetings of the American Psychological Association. There were 64 members of the Society registered, and the meetings were also attended by many nonmembers. The business meeting was held Wednesday, September 3, at 4:00 P.M. The annual dinner was held Thursday evening, at 5:45 P.M., followed by the address of the retiring President, Jack W. Dunlap. His topic was "Roots and Powers." Officers for the year 1941-1942 are: A. P. Horst, President; Irving Lorge, Treasurer; and Harold A. Edgerton, Secretary. Truman L. Kelley and Jack W. Dunlap were elected to the Council of Advisers.

The Fifth Annual Meeting of the American Association for Applied Psychology was held on September 1, 2, and 3, 1941, in conjunction with the meetings of the American Psychological Association. Two hundred and twenty-one members of the A.A.A.P. registered for the meetings, which were also attended by many nonmembers. Six papers were also presented by members of the Association at joint sessions with the American Psychological Association by collaboration of the Program Committees. In addition to these there were several symposia, round tables, and panel discussions, as well as a number of conferences dealing with professional problems. A business meeting was held by each of the four Sections, and there was also a business meeting of the Asso-

ciation as a whole. Following the annual dinner the retiring President, Edgar A. Doll, delivered an address on "Scientific Freedom." The President-elect for 1942 is Walter V. Bingham. The time and place of the 1942 meeting of the American Association for Applied Psychology is to be decided by a mail vote of the membership.

The Society for the Psychological Study of Social Issues, for the meeting of which 92 members of the Society registered, arranged a session on "Public Opinion" for Thursday morning in collaboration with the Program Committee of the American Psychological Association. Following the Annual Business Meeting on Tuesday evening Floyd H. Allport delivered the Presidential Address on the subject, "Methods in the Study of Collective Action Phenomena: An Introduction to Event-System Theory." The Society also sponsored two round tables. Kurt Lewin, of the State University of Iowa, was elected Chairman for 1941-1942. Hadley Cantril, H. B. English, and Ross Stagner were re-elected to the Council for 1941-1943. Barbara Burks, Daniel Katz, and Otto Klineberg were elected as new members of the Council for the same period. Theodore Newcomb, of the University of Michigan, was elected Secretary-Treasurer to succeed I. Krechevsky.

#### TRANSACTIONS OF THE ANNUAL BUSINESS MEETING

Due notice having been given, the Annual Business Meeting of the American Psychological Association, Inc., was held on September 4, 1941, in Room 107, Harris Hall, at Northwestern University. A number far in excess of the necessary quorum being present, the meeting was called to order at 8:30 P.M. by President Herbert Woodrow.

Upon motion duly made and seconded it was voted that the minutes of the Forty-eighth Annual Meeting as held at Pennsylvania State College be approved as printed in the November, 1940, issue of the *Psychological Bulletin*.

The Secretary distributed mimeographed material covering Announcements and Recommendations of Council to serve as the agenda for the meeting. The Announcements were distributed as a matter of information and commented upon briefly by the Secretary.

The assembly stood in silent tribute as the Secretary read the names of the following Members and Associates who had died: Life Member—Franklin O. Smith, July 13, 1941. Members—

C. Homer Bean, September 24, 1940; William H. Burnham, June 25, 1941; Josephine Curtis Foster, July 3, 1941; Fred Kuhlmann, April 19, 1941; Ernest H. Lindley, August 21, 1940; Carl Rahn, May 30, 1939; and H. Douglas Singer, August 28, 1940. Associates—W. Jaffray Cameron, September 6, 1940; Henry N. DeWick, May 2, 1941; Chalice Kelly (Mrs. David Cushman Coyle), October 3, 1940; and Anne Green Rothman, September 29, 1940.

The Secretary announced the resignation of the following 12 Associates: William Berry, Kathleen McConnon Darley, Hyman Goldstein, Howard A. Gray, Sister Mary Clare McCowen, Maurine Rogers Miller, E. Gertrude Prior, Charles S. Roberts, Margaret V. Sabom (Mrs. Theodore Coile), T. H. Schutte, Henry Hughes Welch, and Ralph N. Zabarenko.

The Secretary announced that Clark Wissler had applied for and received the status of Life Member.

The Secretary announced that the Council of Directors has approved the actions of the President in making the following appointments:

John Volkmann, of Columbia University, to act as a representative at the Eighth American Scientific Congress, May 10-21, 1940.

Leonard Carmichael, of Tufts College, to act as a representative on the National Coördinating Committee on Education and Defense of the American Council on Education.

Gardner Murphy, of Columbia University, to act as a representative at the celebration of the seventieth birthday of Hunter College, the dedication of the New Building, and the inauguration of George N. Shuster as President of Hunter College, held October 8-11, 1940.

Irving C. Whittemore, of Boston University, to act as a representative at the inauguration of Carl Stephens Ell as President of Northeastern University on November 19, 1940.

Dael L. Wolfe, of the University of Chicago, to act as a representative at a conference of the Adult Education Council of Chicago on coördination of efforts in community planning for morale purposes on November 30, 1940.

H. L. Hollingworth, of Barnard College, Columbia University, to act as a representative at the celebration of the Centenary of Fordham University on September 15, 16, and 17, 1941.

Hadley Cantril, of Princeton University, Leonard W. Doob, of Yale University, and Samuel W. Fernberger, of the University of Pennsylvania, to act as representatives at the Annual Meeting of the American Academy of Political and Social Science on April 4 and 5, 1941.

Invitations were received to send representatives to the dedication of buildings to the cause of public education at the University of Colorado on June 8 and 9, 1940, and to the Conference on Science, Philosophy, and Religion in Their Relation to the Democratic Way of Life on September 9,

10, and 11, 1941. However, the invitations were received too late to permit the selection of representatives.

The Secretary called the attention of the Association to the previous decision to hold the Fiftieth Annual Meeting of the American Psychological Association on the campus of Harvard University on Wednesday, Thursday, Friday, and Saturday, September 2, 3, 4, and 5, 1942, and noted that the Council of Directors had approved giving the Committee on Observance of the Fiftieth Anniversary of the American Psychological Association and the Centennial of William James authority to plan for two programs of between two and three hours each and to make commitments for the content of these programs by invitations to specific persons to prepare and read papers.

The Secretary announced the following interim actions of Officers of the Association:

The fifth joint meeting of the Council of Directors and the Board of Editors was held on Tuesday, September 2, at which time reports on editorial and business policies were discussed.

John A. McGeoch was re-elected as Editor of the *Psychological Bulletin* by the Electoral Board as prescribed in the Constitution.

The Council of Directors has approved a resolution granting to the Treasurer and to the Secretary access to safe-deposit boxes in the name of the Association in the State Bank and Trust Company of Evanston, Illinois.

President Woodrow, with the approval of the Council, named Harold E. Burt a member of the Committee on Personnel, Promotion, and Public Relations at the request of Edmund S. Conklin, Chairman.

Joseph Zubin was appointed by Council as representative to the Division on Personnel of the National Committee for Mental Hygiene.

The Council of Directors has authorized the Business Manager of the publications of the American Psychological Association to distribute copies of any of the Association's publications to Latin America upon request by the respective editors, who may arrange exchanges at their discretion.

The Council of Directors also approved the following resolution: "Council recognizes that the Association has a public relations function in coöperation with Latin America and expresses its willingness to receive recommendations for appropriations for this purpose from the Committee on Latin-American Psychology or similar groups."

The Council of Directors approved (1) an additional appropriation of \$350 for the printing of an enlarged issue of the *Psychological Bulletin* on War Psychology; (2) printing of 1000 copies beyond the usual number for distribution at a price to be agreed upon by the Editor and Business Manager; (3) giving power to the Business Manager, Editor, and Secretary without another reference to Council to give reasonable elasticity

to items 1 and 2 and any other matters, such as the distribution of free copies, which may be referred to them, such actions to be reported to Council as a matter of information.

Leonard Carmichael, Chairman of the Election Committee, announced the election of the following officers by mail ballot:

President for 1941-1942: Calvin P. Stone, Stanford University.

Directors for 1941-1944: Edna Heidbreder, Wellesley College; and Ernest R. Hilgard, Stanford University.

Nominees for appointment to the Division of Anthropology and Psychology of the National Research Council: Gordon W. Allport, Harvard University; Karl M. Dallenbach, Cornell University; and John A. McGeoch, University of Iowa.

Representative on the Social Science Research Council: Richard M. Elliott, University of Minnesota.

Following the Announcements the President took up in order the items on the mimeographed list of Recommendations from the Council of Directors. These were presented as motions already made and seconded and open for discussion. Wherever possible the chairmen of committees or representatives were called upon to read or comment on reports and recommendations.

The Association voted to elect Frank A. Beach, Cecile White Fleming, and Isabelle V. Kendig directly to Membership in the Association and to transfer the 41 Associates named below to the status of Member:

- |                              |                             |
|------------------------------|-----------------------------|
| 1. Abernethy, Ethel Mary     | 22. Harrell, Thomas Willard |
| 2. Anderson, Amos C.         | 23. Hertzman, Max           |
| 3. Asch, S. E.               | 24. Horowitz, Eugene L.     |
| 4. Bayroff, A. G.            | 25. Humphreys, Lloyd Girton |
| 5. Beaumont, Henry           | 26. Karn, Harry W.          |
| 6. Beckham, Albert Sidney    | 27. Kennedy, John Lyon      |
| 7. Bellows, Roger M.         | 28. Leuba, Clarence J.      |
| 8. Biel, William C.          | 29. Lewis, Don              |
| 9. Bolton, Frederick E.      | 30. Mann, Cecil William     |
| 10. Buxton, Claude E.        | 31. McGregor, Douglas       |
| 11. Collier, Rex Madison     | 32. Newcomb, Theodore M.    |
| 12. Crawford, Meredith P.    | 33. Philip, B. Roger        |
| 13. Dudycha, George J.       | 34. Rigg, Melvin G.         |
| 14. Duffy, Elizabeth         | 35. Roff, Merrill           |
| 15. Eisenson, Jon            | 36. Ryans, David Garriott   |
| 16. Ellson, Douglas G.       | 37. Sims, Verner M.         |
| 17. Ericksen, Stanford Clark | 38. Sisson, E. Donald       |
| 18. Flanagan, John C.        | 39. Spragg, S. D. S.        |
| 19. Fritz, Martin F.         | 40. Thorndike, Robert L.    |
| 20. Gengerelli, J. A.        | 41. Wallach, Hans           |
| 21. Grether, Walter Frank    |                             |



The Association voted to elect as Associates the 372 persons whose names appear below:

1. Affleck, Francis James
2. Allen, Edith May
3. Ammons, Robert Bruce
4. Anderson, Gordon Vladimir
5. Applegate, Claude William
6. Argelander-Rose, Annelies
7. Arluck, Edward Wiltcher
8. Armitage, Stewart G.
9. Arnold, William Jarve
10. Ashcraft, Kenneth B.
11. Babbitt, Adeline E.
12. Baker, Elizabeth
13. Bare, John Kirby
14. Barnes, Melvin Wallace
15. Barrett, Sister Mary Constance
16. Beier, Delton Clifford
17. Bell, Richard Quentin
18. Ben-Avi, Avrum
19. Bennett, Georgia Belle
20. Bergmann, Gustav
21. Bernard, Jack
22. Bernfeld, Siegfried
23. Bernhardt, Ruth Levi
24. Berry, Richard N.
25. Bertocci, Peter Anthony
26. Bird, Joseph W.
27. Blaine, Ann Kieffer
28. Blau, Raphael David
29. Blauvelt, O. Jean
30. Blumenfeld, Walter
31. Bogardus, Helen Evelyn
32. Boonshaft, Julius
33. Brandon, Nancy Evelyn
34. Breland, Keller Bramwell
35. Bremner, Marjorie
36. Brenman, Margaret
37. Briggs, Audrey Louise
38. Brobst, Harry Kern
39. Brower, Daniel
40. Brown, Wade Lynn
41. Brownlee, Elizabeth Tarnow
42. Bryan, Carol Ernestine
43. Bues, Harry William, Jr.
44. Bush, Robert Nelson
45. Butler, John Merton
46. Butler, Octavia Pearl
47. Cain, Patricia Ann
48. Cameron, Donald Ewen
49. Campbell, John Milton
50. Cannell, Charles Frederick
51. Cardall, Alfred James, Jr.
52. Carlton, Theodore
53. Carroll, Herbert A.
54. Case, Harry Walter
55. Case, Marjorie V.
56. Cation, W. LeRoy
57. Chidester, Leona
58. Chin, Robert
59. Clark, Elizabeth Dale
60. Clarke, Frances Marguerite
61. Clarke, John Richard
62. Cline, Omar Kenneth
63. Collier, Harold William
64. Colmen, Joseph Geoffrey
65. Cooper, Max
66. Costello, Timothy W.
67. Crespi, Leo P.
68. Crooks, William Ramsden
69. Crosby, Richard C.
70. Crowley, Miriam Eugenia
71. Dallenbach, John Wallace
72. Dammann, Vera Thyne
73. Danzig, Elliott Raleigh
74. Davenport, Kenneth
75. Davidoff, Melvin David
76. Davis, Helen Caldwell
77. Deutsch, Morton
78. Deutscher, Max
79. Dibble, Jane Mitchell
80. Dice, Robert F.
81. Dichter, Ernest
82. Dorr, Grace
83. Doty, Roy A.
84. Dreher, Robert E.
85. Dubin, Samuel Sanford
86. Dudek, Frank Joseph
87. Eckerman, Arthur Charles
88. Ecob, Katherine G.
89. Ekstein, Rudolf
90. Elkin, Albert
91. Elliott, Susan A.
92. Eselun, Mary P. B.
93. Estes, William K.
94. Evans, John T.
95. Extitus, Margaret Anne
96. Farber, Isadore
97. Feingold, S. Norman
98. Fernsler, Alice Elizabeth
99. Festinger, Leon
100. Finesinger, Abraham Leonard
101. Finney, Ben Curler
102. Fisher, Eleanor Marguerite
103. Fisher, Kenneth Allen
104. Foley, John Daniel
105. Forest, Ilse
106. Forster, Miriam
107. Franklin, Joseph Charles
108. Freeman, Frank Edward
109. Friedman, Harold
110. Friedman, Howard
111. Friedsam, Anneliese
112. Frogue, Anne Marriott
113. Frost, Carl Frederick
114. Fruchtbaum, Vivian
115. Fryer, Paul K.
116. Gage, Nathaniel Lees

117. Gaiennie, Louis Rene
118. Garnezy, Norman W.
119. Genovese, Clarence Thomas
120. Gibb, Jack Rex
121. Giffen, Lowell Lorimer
122. Godbeer, Elizabeth
123. Goertzel, Victor
124. Good, Donald R.
125. Graly, Harry William
126. Grant, James Douglas
127. Gray, Susan Walton
128. Graze, Ruth Gordon
129. Gremmon, Donald Longden
130. Grice, G. Robert
131. Grinsted, Alan Douglas
132. Gross, Nathan
133. Guy, Gladys Maurine
134. Haggerty, Helen Ruth
135. Hall, William Edward
136. Hamilton, Mildred Eckhardt
137. Harding, John Snodgrass
138. Harrell, Ruth Flinn
139. Hartson, Mary Frances
140. Hartstein, Jacob
141. Haverkamp, Harold J.
142. Hawkins, Hermione Hunt
143. Hayes, Eleanor Howland
144. Heermance, Theodore Woolsey
145. Herzman, Ruth A.
146. Heston, Joseph Carter
147. Hicks, Norma Swayne
148. Hilgeman, Alvin Paul
149. Hilty, Dorothy Pauline
150. Hiskey, Marshall S.
151. Hobson, James Richard
152. Hoffer, Sheila Jackson
153. Holt, David
154. Holt, Vee Jane
155. Holzberg, Jules D.
156. Hopkins, Everett Harold
157. Humphrey, Vivian Jane
158. Hunt, Howard Francis
159. Hutchinson, Jane
160. Hyman, Herbert Hiram
161. Irion, Arthur L.
162. Irvine, Jessie Frank
163. Israel, Harold E.
164. Jackson, Minter Morgan
165. Jacobsen, O. Irving
166. Janke, Lesta Long
167. Jenkins, William Oliver
168. Jennings, Helen Hall
169. Johnson, L. William
170. Johnson, Martha S.
171. Josey, Charles C.
172. Joslyn, Elleva
173. Jost, Hudson
174. Junken, Elizabeth M.
175. Jurgensen, Clifford E.
176. Kammann, James Foster
177. Karlin, John Elias
178. Katz, Reuben
179. Keegan, Joseph Gerard
180. Keith, Walter Perry
181. Kelley, Douglas M.
182. Kelsey, Howard Phelps
183. Kerr, Willard Augusta
184. Kidwell, William Miller
185. King, Francis Walter
186. Kirk, Virginia
187. Kirsch, Janet H.
188. Kisker, George Wolfgang
189. Kleinsasser, Alvin John
190. Klinger, Pauline
191. Kniberg, Edith Gann
192. Koch, Sigmund
193. Korchin, Barney
194. Kornreich, Jerome Seymour
195. Kowalski, Walter Joseph
196. Kryter, Karl David
197. Kuttner, Harriet J.
198. Lafore, Gertrude Gilmore
199. Lambert, Ruth
200. Lavins, Regina Marie
201. Lawrence, Charles B., Jr.
202. Lee, Jeane Ann
203. Leiman, John Melvin
204. Levine, Albert J.
205. Liberman, Alvin Meyer
206. Lofgren, Paul Victor W.
207. Lofquist, Lloyd Henry
208. Lowenfeld, Berthold
209. Luchins, Abraham S.
210. Maccoby, Nathan
211. MacDonald, Georgina Annette
212. Macht, Moses B.
213. Mahl, George Franklin
214. Malone, Thomas Earl
215. Marchetti, Pietro Valdo
216. Marcuse, Frederick Lawrence
217. Markey, Stanley Charles
218. McDaniel, Henry Bonner
219. McDonald, Eugene Thomas
220. McGrath, Fern
221. McHugh, Gelolo
222. McIlvaine, Franklin Miller
223. McIntyre, Sherwood Cecil
224. McKim, Margaret Grace
225. McKinnon, Kathern Mae
226. McShane, Thomas J.
227. Mechem, Mary Elizabeth
228. Menefee, Audrey Granneberg
229. Merchant, Frances Catherine
230. Merrill, Paul LaRose
231. Metcalf, Stephen Eugene
232. Meyers, Jack E.
233. Miller, Joseph S. A.
234. Miller, Mungo Fraser
235. Mills, William Willis
236. Morse, Philip W.
237. Mount, George Edwin
238. Muncie, Wendell Stanley

239. Murphy, Matthew John
240. Nagge, William Walker
241. Newman, Herbert M.
242. Niven, Jorma Iltanen
243. O'Donnell, Craven Donald
244. Older, Harry Jay
245. Olson, Ruth Marion
246. Osgood, Charles Egerton
247. Parry, Douglas Farlow
248. Partington, J. Edwin
249. Pascal, Gerald Ross
250. Pearce, Daniel Wilson
251. Perry, Warren B.
252. Pesek, Luella G.
253. Peterman, Jack Nat
254. Peterson, Stuart Conrad
255. Pettengill, Frederick Batchelder
256. Phillips, Franklin Mohnney
257. Poage, Maurine
258. Pockrass, Jack Harold
259. Porter, Rutherford B.
260. Powers, Francis Fountain
261. Price, Dennis Henry
262. Price, Frampton Bailey
263. Pronko, Nicholas Henry
264. Raab, David H.
265. Radke, Marian Jeanette
266. Ransom, Dorothy
267. Rappaport, Sidney Max
268. Rautman, Arthur L.
269. Rayson, Glendon Ennes
270. Reed, Mary Frances
271. Reichard, Suzanne Kate
272. Rescigno, Dorothy E.
273. Rhinehart, Jesse Batley
274. Rulman, Jessie L.
275. Richey, James Milton
276. Riker, Britten Littell
277. Risley, John Power
278. Roach, James Harrison Lee
279. Roberts, Amster Dudley
280. Rogers, Robert C.
281. Rohrer, John Harrison
282. Rosenwald, Alan Kenneth
283. Rosetti, Dennis J.
284. Rost, Ada Margaret
285. Rouke, Fabian Logue
286. Rubin, Edward B.
287. Runner, Kenyon Ridgway
288. Rymarkewiczowa, Dorota
289. Saenger, Gerhart H.
290. Sand, Margaret Cole
291. Sarason, Seymour Bernard
292. Satter, George Albert
293. Schmalgried, Newell T.
294. Schnack, George Ferdinand
295. Schultz, Douglas G.
296. Sears, Richard Niles
297. Seashore, Stanley E.
298. Shagass, Charles
299. Sherman, Arthur Wesley, Jr.
300. Sherriffs, Alex Carleton
301. Shohl, Jane
302. Shor, Joseph
303. Shotwell, Anna Markt
304. Shurrager, Harriett Cantrall
305. Siegel, Max
306. Siegel, Paul Shafer
307. Silvergled, Edith
308. Silverman, Sylvia
309. Silverman, William Joseph
310. Siple, Howard L.
311. Smith, Denzel D.
312. Smith, Moncrieff H., Jr.
313. Soles, Edward
314. Solomon, Richard Lester
315. Spoerl, Dorothy Tilden
316. Stanland, Marion Dear
317. Staton, Thomas Felix
318. Steinberg, Marvin
319. Stevens, Harold
320. Stone, G. Raymond
321. Stotz, Marion M.
322. Stouffer, George A. W., Jr.
323. Supa, Michael
324. Swann, Reginald Le Grand
325. Swedenburg, Carl W.
326. Talamini, Tia Giovanna
327. Taylor, Calvin Walker
328. Taylor, William Stephens
329. Tenenbaum, Samuel
330. Tennies, L. Grant
331. Thomas, Garth Johnson
332. Thompson, Helen Reed
333. Thompson, Jane
334. Thurlow, Willard Rowand
335. Tice, Frederick Gordon
336. Trumbull, Richard
337. Tubbs, William Ralph
338. Tucker, Anthony Carter
339. Turner, Ralph Harold
340. Uhlaner, Julius Earl
341. Ullrich, Oscar Alvin
342. Underwood, Benton J.
343. Vallance, Theodore Roosevelt
344. VanNewkirk, Mary Elizabeth  
Hemsath
345. Veigle, Eugene Walter
346. Vernon, William Henry Dalton
347. Vinacke, W. Edgar
348. Wapner, Seymour
349. Weaver, Helen Guffey
350. Weider, Arthur
351. Weisman, Raoul
352. Weitz, Joseph
353. Weitzman, Ellis
354. Wexler, Milton
355. Wilkening, Howard Everett
356. Wilking, Stephen Vincent
357. Williams, Malcolm James
358. Wilson, Phyllis Collins
359. Wimberly, Stanley Eugene

- |                                 |                            |
|---------------------------------|----------------------------|
| 360. Wing, Kempton Goodrich     | 367. Wright, Beatrice Ann  |
| 361. Wischner, Joseph           | 368. Wright, Howard Emery  |
| 362. Wisely, Harold Martin      | 369. Wrightstone, J. Wayne |
| 363. Witzeman, B. Evangeline    | 370. Wyatt, Frederick      |
| 364. Wolpe, Zelda S.            | 371. Yager, J. Lewis       |
| 365. Woodbury, Charles Benjamin | 372. Yoffe, Isabelle       |
| 366. Worbois, Greydon Milford   |                            |

Upon recommendation of the Council of Directors the Association voted:

That the report of the Program Committee, Elmer Culler, Chairman, be accepted with thanks and ordered printed in the Proceedings, that Professor Culler be continued as Chairman for the 1942 meeting, that Harold E. Burtt and the Secretary be appointed members, and that the Committee be instructed to carry out the recommendations of the Program Committee for the 1941 meeting. (See Reports.)

That the report of the Committee on Precautions in Animal Experimentation, Karl F. Muenzinger, Chairman, be accepted with thanks and ordered printed in the Proceedings. The Association further voted that Norman R. F. Maier, of the University of Michigan, be made Chairman, and that Robert C. Tryon, of the University of California, be made a member of the Committee for the term 1941-1944. (See Reports.)

That the report of the Committee on Motion Pictures and Sound Recording Devices in Instruction of Psychology, William A. Hunt, Chairman, be accepted with thanks and ordered printed in the Proceedings, and that the Committee be continued with Kenneth H. Baker, Clarence R. Carpenter, Milton Metfessel, Willard L. Valentine as members and Adelbert Ford as Chairman. (See Reports.)

That the report of the Committee on the Preparation of Examination Questions in Psychology, Alvin C. Eurich, Chairman, be accepted with thanks and ordered printed in the Proceedings. The Association further voted that the Committee be continued with Charles Bird as Chairman and Kenneth H. Baker, Alvin C. Eurich, Paul R. Farnsworth, Richard W. Husband, Leon A. Pennington, and Ben D. Wood as members, and appropriated \$100 for the activities of the Committee. (See Reports.)

That the report of the Advisory Committee on the *Psychological Index*, A. T. Poffenberger, Chairman, be accepted with thanks, ordered printed in the Proceedings, and that the Committee be continued with its present membership to bring the project to conclusion. (See Reports.)

That the report of the Committee on Displaced Foreign Psychologists, Barbara S. Burks, Chairman, be accepted with thanks and ordered printed in the Proceedings, and that \$200 be appropriated for the work of the Committee. (See Reports.)

That the report of the Committee on Investments, Willard Valentine, Chairman, be accepted with thanks, ordered printed in the Proceedings, and that the Committee be continued with its present membership. (See Reports.)

That the report of the Committee on Scientific and Professional Ethics, A. T. Poffenberger, Chairman, be acknowledged and the Committee commended for its handling of the difficult problems referred to it

for adjustment. The Association further voted to appoint Edward C. Tolman as Chairman and to appoint L. L. Thurstone to replace H. A. Carr, whose term expires. The Council is asking the resignation of one Member of the Association. This request was based on the report of the Committee on Scientific and Professional Ethics that this Member had offered for publication material not original with him.

Council reported that it had taken cognizance of rumors that there had been electioneering in the Association. It had found no evidence that this was true and did not believe that electioneering had ever been an important factor in American Psychological Association elections. To clarify the issue, however, the Council recommended the adoption of the following resolution:

Resolved, that organized blocs, electioneering, or caucusing are inappropriate in a scientific association such as the American Psychological Association.

The resolution was adopted unanimously.

The Association voted that the report of the Committee on the Constitution be accepted with thanks and ordered printed in the Proceedings. (See Reports.) The Association further voted the adoption of the following constitutional changes as edited and amended from the Committee's report:

Article VI, Section 1, to be revised to read:

1. At least five months before the date set for the Annual Meeting, the Election Committee, constituted in accordance with the provisions of Article VII of these Bylaws, shall issue a call for nominations for President and for members of the Council of Directors. One hundred and twenty days before the Annual Meeting, the Committee shall count the nominating ballots and certify for a second or election ballot the names of those Members of the Association receiving a large number of nominating votes for the office of President (the number of names thus certified to be decided by the Election Committee) and for each vacancy to be filled on the Council of Directors shall certify for the election ballot two Members of the Association as nominees, such nominees being those having the highest number of votes on the nominating ballot. These nominations shall be reported to the Secretary, who shall at once transmit the report to the Council of Directors. The latter shall then certify as additional nominees for Members of the Council of Directors not more than twice as many additional nominees as there are vacancies. The Election Committee shall thereupon cause to be circulated by the Secretary to all the Members of the Association a second or election ballot on which shall be printed the names of those certified as nominated in the above prescribed fashion. The names of the nominees shall be listed alphabetically and without indication as to whether they are nominees by the Council of Directors or by the Membership at large. Members of the Council of



Directors, other than the President, Secretary, and Treasurer, shall not be eligible for immediate re-election to the Council. Nomination and election ballots shall be counted by a preferential voting system to be designated by the Council by standing regulation.

Article I, Section 6, of the Bylaws to be amended as follows:

The following sentences to be deleted: "The conditions for Membership shall not be considered as having been fulfilled in the absence of (1) acceptable published research of a psychological character beyond the doctorate dissertation and (2) of the degree of Doctor of Philosophy, based in part upon a psychological dissertation." In place of the foregoing, the following sentences to be inserted: "The conditions for Membership shall be (1) acceptable published research of a psychological character beyond the doctoral dissertation or (2) five years as Associate subsequent to the granting of the doctoral degree plus evidence of acceptable contribution to psychology."

The following words to be deleted from the second sentence of the section: "and, except for the special reasons stated in the nomination, no nomination that is unaccompanied by copies of the nominee's published research shall be considered by the Council."

The Association also voted by amendment of Council's recommendation that Article XI, in Affiliation Section 2e, be edited to read as follows:

2e. The Secretary of the American Psychological Association shall include in the Yearbook the following information for each affiliated organization: (1) name; (2) names of officers; (3) names and membership of principal committees; (4) information concerning publications; (5) information concerning the annual meeting; and (6) lists of the members of such organizations, grouped so as to indicate those who are Members or Associates of the American Psychological Association.

Upon recommendation of Council, the Association voted:

That the report of the Committee on an Annual Review of the Development of Psychology, Joy Paul Guilford, Chairman, be accepted with thanks and ordered printed in the Proceedings, and that the Committee be discharged. The Association further voted that a Committee on New Publications be created with Joy Guilford as Chairman and C. M. Louttit, Donald G. Marquis, and John A. McGeoch as members to consider the need for, and character of, new media of publication. (See Reports.)

That the report of the Committee on Extension of Functions of the Secretary's Office, Herbert Woodrow, Chairman, be accepted with thanks and ordered printed in the Proceedings. (See Reports.)

Council reported that the poll of the Association indicated a desire to extend the functions of the Secretary's Office if financially feasible. As a result of the survey of the experience of other

societies, Council felt that grave doubts remained on the probability of success of some of the proposals. To secure an official expression of the opinion of the Association, Council offered the following resolution, which was adopted by the Association:

The American Psychological Association at its 1941 annual meeting resolves that it is committed to an extension of secretarial services and indicates its willingness to increase dues by \$1.00 for Associates and Members, if and when needed, to finance the increased services.

In view of the favorable action on the resolution Council transmitted the following recommendations of the Committee on Extension of Functions of the Secretary's Office:

(1) That the present Committee on Extension of Functions of the Secretary's Office be continued for one year and provided with a budget of \$250 for necessary expenses.

(2) That this Committee be charged with the responsibility of negotiating for the location of a secretariat and for the appointment of a Secretary, and of reporting the outcome of these negotiations to the Council before the next annual meeting.

(3) That Council be instructed to bring before the 1942 meeting the necessary recommendations for any needed constitutional amendments, change in dues, and definition of the functions of the Secretary.

(4) That the Council be prepared to make recommendations concerning persons, locations, and dates of beginning of the new service in case the action of the Association on enabling legislation is favorable.

The Association voted approval of the foregoing four recommendations.

The Association voted:

That the report of the Committee on Personnel, Promotion, and Public Relations, E. S. Conklin, Chairman, be accepted with thanks, ordered printed in the Proceedings, and that the Committee be discharged; and that a new Committee on Publicity and Public Relations be created, to consist of five members to be appointed by the incoming President. (See Reports.)

That the progress report of the Committee on Observance of the Fiftieth Anniversary of the American Psychological Association and the Centennial of William James, Edwin G. Boring, Chairman, be accepted with thanks and ordered printed in the Proceedings and that the more detailed outline of plans be called to the attention of the new Program Committee in the interest of coördination. (See Reports.)

That the report of the Committee on Refugee Children, created jointly with the A.A.A.P., be acknowledged with thanks, and that the Committee be continued to meet any needs that may arise.

That the report of its representatives to the American Association for the Advancement of Science be accepted with thanks and ordered printed

in the Proceedings, and that Edmund S. Conklin and John A. McGeoch be elected as representatives. (See Reports.)

That the report of its representative, H. B. English, on the Council of Human Relations of the American Association for the Advancement of Science be accepted with thanks and that H. B. English be re-elected for a three-year period.

That the report of John E. Anderson, the Association's representative in the American Documentation Institute, be accepted with thanks and ordered printed in the Proceedings, and that Steuart Henderson Britt be elected as the new representative. (See Reports.)

The election of Harold O. Gulliksen to succeed William A. McCall as a representative of the American Psychological Association to the American Standards Association.

That the report of the delegates to the Inter-Society Color Council be accepted with thanks and ordered printed in the Proceedings, that affiliation with the Inter-Society Color Council for 1941-1942 be continued, and that the present delegation be continued with its Chairman, Forrest Lee Dimmick. (See Reports.)

That the report of E. A. Culler, a representative of the American Psychological Association to the National Research Council, be accepted with thanks and ordered printed in the Proceedings. (See Reports.)

That representation in the New York Management Council be discontinued since it is now inactive.

That the report of Richard M. Elliott, a representative to the Social Science Research Council, be accepted with thanks and ordered printed in the Proceedings. (See Reports.)

That Walter Miles be continued as representative to the Emergency Committee on Psychology of the National Research Council for the life of the Committee.

That \$353.94 be appropriated to defray the additional cost of the issue on Military Psychology, as requested by the Emergency Committee.

That the Association create a Committee on Standardization of Measures of Electrical Skin Resistance with G. L. Freeman, of Northwestern University, as Chairman and Chester W. Darrow, Roland C. Davis, Theodore W. Forbes, Donald G. Marquis, Curt P. Richter, and M. A. Wenger as members.

That the invitation of the American Council of Education to become a constituent member at a fee of \$100 a year be deferred for further study.

That the report of the Treasurer and Business Manager of Publications, W. L. Valentine, for the year ending December 31, 1940, be approved and ordered printed in the Proceedings. The report is supplemented by a report of the auditors. (See Reports.)

That the Treasurer's budget for 1942 be approved and ordered printed in the Proceedings. (See Reports.)

President Woodrow then called for new business, and the following recommendations of Council, received too late for inclusion in the mimeographed agenda, were voted upon favorably by the Association:

That a joint Committee with the American Association for Applied Psychology on the Titles and Content of Courses in Psychology be created to study relationships to the requirements of civil service and public and private employment. The Association voted that the members of the Committee be appointed by the incoming President in coöperation with officials of the American Association for Applied Psychology.

That the report of the Committee on Psychology and the Public Service, L. J. O'Rourke, Chairman, be accepted with thanks, ordered printed in the Proceedings, and that the Committee be continued. (See Reports.)

Upon motion by Professor R. M. Yerkes, duly seconded, the Association adopted the following resolution of thanks:

Be it resolved that the American Psychological Association, assembled at the Forty-ninth Annual Meeting, expresses its thanks to President Franklyn Bliss Snyder, of Northwestern University, to Professor A. R. Gilliland in charge of local arrangements, and to psychologists, officers, wives of staff members, staff members of the residence halls, and other members and graduate students of the University for their generous hospitality, careful planning, and outstanding physical arrangements for the meetings of the Association.

There being no further business, the meeting adjourned at 10:45 P.M.

#### REPORTS

##### REPORT OF THE PROGRAM COMMITTEE

*To the Council of Directors and Members of the American Psychological Association:*

In response to the Call for Papers, 184 abstracts were received directly from the membership. This was smaller than the number (228) received last year for the Pennsylvania State meeting and larger than the number (131) received in 1939 for the California meeting. In addition, five approved abstracts were received from the Society for the Psychological Study of Social Issues and six from the American Association for Applied Psychology. Of the 195 abstracts, 182 were accepted and distributed in 24 section meetings, as compared with 190 in 1940 and 142 in 1939. At the physical meeting of the Committee on June 1, all members were present; in addition, Dr. William C. Trow attended as representative of the A.A.A.P. Upon request of the S.P.S.S.I., round tables on "Morale" and "Public Opinion" were listed; also, upon request of various members, a round table on "Projective Techniques." The Committee further scheduled a round table on "The Psychologist in National Defense" and invited Walter R. Miles, the Association's representative on the Emergency Committee in Psychology, to act as Chairman.

The present Program Committee was instructed at the 1940 meeting

to ascertain, by a poll of the membership, what policies should be adopted in the construction of future programs. A questionnaire, dated January 25, 1941, was accordingly framed and sent to 683 Members and 2254 Associates; from the total issue of 2937, 1223 were returned (41.6%), 55.7% from Members and 37.1% from Associates. The responses were tabulated separately for Members and Associates by the Secretary's Office; but the replies of the two groups differed so little, except on question 4, that only the overall percentages are included in this report. The detailed tabulation may be obtained upon application to the Secretary. The close agreement between Members and Associates provides gratifying evidence for an underlying unity in our group. The returns will be summarized briefly.

(1) 86.6% voted to authorize the Program Committee to arrange one or more sessions or round tables, the speakers or participants being invited by the Committee itself.

(2) On the question of concurrent sessions, 28.8% voted never to list more than three, 40.5% voted to list four when necessary, and 30.7% voted to schedule as many as may be required to accommodate all acceptable abstracts. This vote indicates that over two-thirds of our respondents favor some restriction in the number of concurrent sessions.

(3) Concerning the amount of time (15 or 10 minutes) to be allowed for individual papers, 51.0% favor the present practice, 25.6% favor the 20% reduction, and 23.4% favor, with certain qualifications, the allotment of more time. From this vote, it is clear that three-fourths of our membership oppose any reduction in the present time allotments.

(4) Item 4 concerning evaluation and acceptance of abstracts was, from the Committee's standpoint, the most important question. Here the verdict of the membership was strongly (79.3%) in favor of subjecting all abstracts alike, without regard for the author's status as Member or Associate, to the Committee's estimate and approval. But certain restrictions are offered: that the available time be so prorated in advance that Members receive the lion's share; or that in case of doubt a Member's abstract receive preference over an Associate's. A familiar suggestion is that the Committee be more hard-boiled about rejections. It is easy enough to exclude abstracts; but to exclude wisely and fairly is a very different matter. A former secretary of the Program Committee stated that once, during his tenure, all three members of the Committee rated all the abstracts and that the average intercorrelation between raters was 0.10. This bit of testimony carries its own moral. After all, each member with a program in his hand can decide for himself whether a paper is worth his own time.

(5) Only 21.7% voted to restore the program by graduate students (non-Associates) in which only the title of the paper was printed. A number of replies, however, favored these programs as an aid to prospective employers in appraising the work and personality of future candidates for jobs.

(6) The recently revived practice of printing a timetable prior to the abstracts received well-nigh universal endorsement (99.2%).

(7) On the important question about our Film Programs, 86.3% voted that the Program Committee, or some other special Committee,



preview all films before listing them. Only one-third (33.8%) favored a verbal abstract.

The Committee is indeed grateful for the generous and thoughtful response. An effort was made to set down all suggestions which are practicable and meritorious. A list will be filed in the Secretary's Office for reference by future Program Committees. In order to guard the present report from undue detail, we shall confine ourselves to the following *recommendations* which grow directly from the votes and comments received.

(1) The need for certain modifications in our program structure is widely felt. The Committee believes, however, that the annual meeting of a Scientific Society is now, and ever will be, first of all a *forum* where its members can report and discuss what they are doing and thinking, subject only to the equal rights of other members and to certain quantitative and qualitative restrictions. Most of our program will, in future as in past, consist of abstracts which represent the thought and activity of our membership. As stated in one comment, our programs can be no better than the work being done by our members. The complaint that a program of abstracts is "hodge-podge" has indeed some recognizable truth; but even though true, it suggests the vigorous and widespread proliferation of our science. Something can be done by accommodating our younger members in regional societies; but your Committee feels that even the humblest Associate deserves the privilege of submitting his work to an impartial board for presentation to the National Society. This policy has values which the great republic of science must faithfully preserve.

(2) We suggest that future programs provide one or more *question-and-answer* panels similar in design to the well-known radio programs. Topics and chairmen must be chosen with care; but many subjects dealing with methodology, theory, and the like could be handled more effectively and enjoyably than by formal papers.

(3) We suggest further that future programs incorporate a number of *round tables* on topics submitted by members or chosen by the Committee. To avoid the accusation that round tables often are constituted from the personal friends of the Chairman and the still more frequent complaint that some participants are unqualified or ill-prepared, membership on these round tables should be open to any person in the Association. We recommend that tentative topics and chairmen be announced in the call for papers; and that any person who wishes to participate submit an abstract of his contribution. The Committee will then decide which round tables have attracted enough support to be worth listing and also which abstracts are acceptable for a given round table. These abstracts would all be oriented about the stated topic and would, therefore, have a unity such as cannot be found in ordinary sessions. The fact that participation in the round table is a matter of open competition would presumably stimulate each applicant to do his best.

(4) We further suggest that a general session be scheduled for Wednesday forenoon, the opening day, at which not less than two or more than four *invited speakers* address the Association. To encourage mature preparation, topics and speakers should be decided a year in advance. Emi-

nent investigators from allied fields (biology and social science) might well be included along with qualified representatives from psychology. Expense money might properly be offered those participants who are non-members. Such an opening session would bring our whole attendance together before it divides into numerous smaller groups and should prove both enlightening and stimulating. This type of meeting was often requested in the replies.

(5) The fact that 86% of our Association voted that films be previewed by the Program Committee (or by some other responsible agency) before being admitted to the annual program raises certain practical questions. This year 10 films were shipped to the Secretary prior to the physical meeting of the Program Committee, in addition to some verbal abstracts. Inasmuch as the Committee's time was busily occupied until late in the evening upon regular program material, it proved impracticable to hold the committeemen together for judging the films. Accordingly the secretary, Dr. Olson, viewed the films which had been submitted, but modestly demurred to exclude any films on his sole opinion. He gained the impression that current agitation about films had favorably affected the quality of those submitted this year. Thirteen films were finally scheduled. To avoid similar difficulties in the future, the Committee recommends: (1) that the Chairman of the Association's Committee on Motion Pictures (or some other qualified person) be named assistant each year to act with or for the Program Committee in previewing and evaluating films; and (2) that said nominee recommend to the Committee what disposition be made of each film submitted to it.

Respectfully submitted,

FORREST A. KINGSBURY

WILLARD C. OLSON, *Secretary*

ELMER A. CULLER, *Chairman*

#### REPORT OF THE COMMITTEE ON PRECAUTIONS IN ANIMAL EXPERIMENTATION

*To the Council of Directors and Members of the American Psychological Association:*

No infraction of the rules of the Association has been reported this year, and as far as the Committee is aware there has been no state legislative action designed to restrict animal experimentation. The Committee's attention has been called to Mr. Hearst's personal column, "In the News," which has recently contained letters against animal experimentation, the authors of which are described in the *Journal of the American Medical Association* as "some with but most without scientific standing, who lived many, many years—indeed two generations—ago."

A few copies of the printed rules and precautions regarding animal experimentation have been distributed this year. The Committee is still well supplied with these placards, which should be displayed in all animal laboratories.

Respectfully submitted,

NORMAN R. F. MAIER

W. N. KELLOGG

KARL F. MUENZINGER, *Chairman*

REPORT OF THE COMMITTEE ON MOTION PICTURES AND SOUND  
RECORDING DEVICES IN INSTRUCTION OF PSYCHOLOGY

*To the Council of Directors and Members of the American Psychological Association:*

The press of duties incurred by the various members of your Committee in connection with the defense program has resulted in some limitation of the work of the Committee during the past year. The Committee has offered its services to the Program Committee in attempting to improve the quality of the films exhibited at the annual meeting. It has also investigated the possibility of running brief critical reviews of new instructional films in the *Psychological Bulletin*. Due to the pressure for space in the *Bulletin*, it seems best to table this suggestion for the moment. Several members are engaged on individual projects which are not yet ready for report.

The Committee recommends that it be continued with the present personnel and that Professor Adelbert Ford be named Chairman for the ensuing year.

Respectfully submitted,

KENNETH H. BAKER  
LEONARD CARMICHAEL  
FORREST L. DIMMICK  
EDGAR A. DOLL  
MILTON METFESSEL  
WALTER R. MILES  
WILLARD L. VALENTINE  
WILLIAM A. HUNT, *Chairman*

REPORT OF THE COMMITTEE ON THE PREPARATION OF EXAMINATION  
QUESTIONS IN PSYCHOLOGY

*To the Council of Directors and Members of the American Psychological Association:*

For some time the Committee on Examination Questions in Psychology wondered whether the demand for comparable examination forms or for a large reservoir of questions was sufficient to justify spending considerable time and energy in preparing them. A grant of \$50, made by the Association at its last annual meeting for the work of the Committee, made possible a survey of judgments of Members and Associates on this and related questions. Their answers now provide a basis for determining future policies for the Committee and the Association.

A double postal card was prepared, one portion of which gave directions for responding and the other presented the questions to which responses were to be checked or written. The directions were stated as follows:

The Committee on Examinations of the American Psychological Association wishes: (1) to explore the need and desire for comprehensive examinations in psychology, and (2) to find out the extent to which questions or items now exist that may be drawn upon in constructing comprehensive examinations. Will you kindly aid the Committee by responding to the following questions.

Indicate on the attached card by checking in the proper column:

- (1) Whether or not you favor the construction of comparable examination forms in the fields designated.
- (2) Your use of the examinations if they were available—assuming they are valid and reliable.
- (3) Whether you are teaching courses in the fields.
- (4) Types of examinations you are now giving—Write O, if objective as multiple choice; S, if semi-objective as completion or listing; and E, if essay.
- (5) Authors of textbooks you are using.
- (6) Whether you can supply the Committee with copies of examinations.
- (7) Whether you would be willing to assist by trying out tentative forms.

Twelve hundred questionnaires were sent out early in May. By August first, 445 usable returns were received. A number of additional returns reached the Committee during the past four weeks, but because the tabulations had already been completed these were not included in final summary.

The responses are summarized in three tables attached hereto. For the field of general psychology, 311 Members or Associates of the Association, or 70% of the respondents, favor constructing comparable examination forms; of these, 207 would use the examinations if made available, and an additional 22 would use them under various conditions, thus making a total of 229, or more than half of the respondents who are interested in using such examinations. The total number of copies they estimate they would use per year is 31,640. Clearly, this represents a good market and indicates a definite need for preparing valid tests in general psychology.

Slightly more than 60% of the respondents are now teaching courses in general psychology. The large majority of these, or 53% of all respondents, now use objective tests, 37% use semi-objective examinations, and 25%, essay questions. One hundred and sixty-six, or 37%, say they can supply examinations that the Committee may use in constructing comparable forms. Two hundred and forty-eight, or 56%, would be willing to assist the Committee in trying out new forms.

As would be expected, the instructors listed a wide variety of textbooks they are now using in the course. The top five in terms of frequency are Ruch (70), Woodworth (68), Dashiell (49), Guilford (16), and Boring, Langfeld, and Weld (14). Along with the questions that teachers of general psychology are willing to submit for use, these textbooks furnish a basis for developing examination questions that would be serviceable in many institutions. In other words, these books might be used as a core of basic materials.

Similar information is provided in the tables for 11 other branches of psychology. From the standpoint of the demands for comparable forms as expressed in the frequency of respondents who favor constructing them, the fields may be listed in order as follows:

- |                |                  |
|----------------|------------------|
| 1. General     | 7. Clinical      |
| 2. Educational | 8. Comparative   |
| 3. Tests       | 9. Physiological |
| 4. Abnormal    | 10. Child        |
| 5. Personality | 11. Applied      |
| 6. Social      | 12. Experimental |

The last five fields were checked by few instructors or the number of copies that would be used per year is so small that these areas, for the time being at least, can be neglected by the Committee on the Preparation of Examination Questions.

From the standpoint of the estimated number of examinations that would be used in a year, no other branch of psychology approaches the general field. Only two branches, educational with 7266 and personality with 3337, call for more than 3000 copies. These numbers, of course, are minimum rather than maximum, for there are other instructors within these fields from among those who did not respond and from nonmembers of the Association who would very likely use the tests if they were available.

In summary, the results of this survey reveal a very large demand among Members and Associates of the Association for comparable examinations in general psychology, a lesser, although sizable, demand in educational psychology, and minor demands in tests, abnormal psychology, personality, and social psychology. These six fields, it seems, are those to which the Committee should devote its attention in the preparation of comparable examination forms. Clearly, the major emphasis should be given to the preparation of examinations in general psychology.

#### *Committee Recommendations*

As a result of the study and consideration given through correspondence to the problem of constructing comparable examination forms, the Committee on the Preparation of Examination Questions in Psychology submits the following recommendations:

- (1) That the Committee on the Preparation of Examination Questions in Psychology be continued.

TABLE I  
PRESENT DEMAND FOR COMPARABLE FORMS OF EXAMINATIONS  
IN VARIOUS BRANCHES OF PSYCHOLOGY\*

Field	Favor Construct- ing Comparable Forms		Would Use If Available				Approximate Number of Examinations Would Use per Year
	N	%	Yes	Yes-If	Total	%	
General	311	70	207	22	229	52	31,640
Educational	188	42	89	11	100	22	7,266
Tests	167	38	71	11	82	18	2,543
Abnormal	161	36	71	14	85	19	2,889
Personality	152	34	76	10	86	19	3,337
Social	142	32	66	11	77	17	2,398
Clinical	130	29	49	6	55	12	1,227
Comparative	102	23	17	5	22	5	344
Physiological	98	22	17	3	20	4	496
Child	40	9	39	1	40	9	1,997
Applied	24	5	21	1	22	5	1,345
Experimental	17	4	13	2	15	3	409

\* Total number of respondents is 445, which is the figure used in calculating the percentages.



(2) That the Committee be authorized to form six subcommittees of Members and Associates of the Association, one for each of the following fields: general psychology, educational psychology, tests and measurements, abnormal psychology, personality, and social psychology. The membership of each committee should be drawn from instructors who are now teaching courses in the field with which the Committee will be concerned.

(3) That the Committee be authorized to file through the Secretary of the Association a request for a grant of money from one or more foundations in order to aid in getting the program under way. After the first examination forms are constructed, the program should begin to carry itself through the sale of tests.

(4) That in order to begin the construction of tests without further delay the Association allot \$100 to the Committee for the ensuing year to be used in constructing examinations in general psychology or the field in which the demand is greatest. This money would be used for clerical and typing services in bringing together many examination items in general psychology which members of the Association indicated they would be willing to submit to the Committee. Within the next year it would be possible to construct two or three preliminary forms and use them in trial situations.

Respectfully submitted,

F. C. DOCKERAY  
 RICHARD W. HUSBAND  
 THEODORE F. KARWOSKI  
 FLOYD L. RUCH  
 LEWIS M. Terman  
 BEN D. WOOD  
 ALVIN C. EURICH, *Chairman*

TABLE II

EXTENT TO WHICH RESPONDENTS TEACH COURSES IN VARIOUS BRANCHES OF PSYCHOLOGY, TYPES OF EXAMINATIONS THEY USE, AND THEIR EXPRESSED WILLINGNESS TO COÖPERATE WITH THE COMMITTEE\*

Field	Now Teaching Courses In		Types of Examinations Now Being Used						Can Supply Exams		Would Be Willing to Assist in Trying Out New Forms	
	N	%	O	%	S	%	E	%	N	%	N	%
General	271	61	235	53	166	37	111	25	166	37	248	56
Educational	118	27	96	22	88	20	57	13	55	12	105	24
Abnormal	108	24	72	16	60	13	61	14	49	11	99	22
Social	99	22	49	11	46	10	73	16	31	7	78	18
Comparative	30	7	13	3	16	4	27	6	11	2	27	6
Personality	110	25	67	15	51	11	68	15	35	8	87	20
Tests	104	23	78	18	47	11	62	14	43	10	82	18
Clinical	58	13	25	6	20	4	33	7	10	2	42	9
Physiological	26	6	15	3	14	3	25	6	14	3	21	5
Child	50	11	38	9	24	5	28	6	31	7	47	11
Applied	25	6	20	4	11	2	11	2	17	4	25	6
Experimental	24	5	10	2	8	2	16	4	10	2	19	4

\* Total number of respondents is 445, which is the figure used in calculating the percentages.

TABLE III  
AUTHORS OF TEXTBOOKS IN PSYCHOLOGY USED MOST FREQUENTLY

Top Five Books in Each Field on Basis of Frequency of Mention										
Field	Author	N	Author	N	Author	N	Author	N	Author	N
General	Ruch	70	Woodworth	68	Dashiell	49	Guilford	16	Boring, Langfeld, & Weld	14
Educational	Pressey	37	Sorenson	13	Commins	11	Skinner	7	Eurich-Carroll	5
									Mursell	5
									Jordan	5
Abnormal	Morgan	34	Dorcus & Schaffer	17	Conklin	15	Marlow	12	Fisher	6
Social	Bird	20	Klineberg	19	Katz	15	Britt	8	Brown	5
Comparative	Maier & Schneirla	18	Moss	5	Munn	5	Warden	2		
Personality	Schaffer	28	Allport	20	Stagner	13	Thorpe	7	Murray	2
Tests	Freeman	15	Terman & Merrill	11	Greene & Jorgenson	7	Pintner	6	Young	2
									Hunt	5
Clinical	Louttit	24	Terman	2	Rogers	2			Garrett	5
Physiological	Freeman	7	Herrick	2						
Child	Brooks	18	Jersild	7	Curti	7	Morgan	6	Cole	4
Applied	Husband	9	Griffith	3	Crane	3	Gray	2		
Experimental	Woodworth	12	Bills	5	Baker	4				

REPORT OF THE ADVISORY COMMITTEE ON THE *Psychological Index*  
To the Council of Directors and Members of the American Psychological Association:

The Indexing Project carried on its work of the past year with its staff reduced to about one-third of its original size due to retrenchments in the W.P.A. program. In December the Civil Aeronautics Authority requested the W.P.A. to divert the indexing staff to the indexing, editing, and preparation for publication of the literature on psychological aspects of aviation. As this was an emergency project, the Director acceded to the request. After many delays the new undertaking got under way and is at present about half completed.

When work on the *Psychological Index* thus ceased temporarily there were 94,479 (88%) abstracts completed, and 61,820 (58%) of these were indexed. The articles remaining to be abstracted are those that are difficult to find or to translate. The indexing has lagged behind the abstracting because there were too few properly trained persons to do this phase of the work.

The Director of the project was notified on June 23 that the project would be closed on June 30. He therefore made an effort to have a skeleton staff retained and, if this failed, to have all materials together with the cabinets containing them assigned to him as custodian. Columbia University has offered to provide suitable storage space for this material.

Although it appears that only the second of these two alternatives will be granted, the project has been continued at the special request of the C.A.A. until the aviation indexing is completed.

The Director proposes to do whatever he can to bring the project to completion either with or without the help of the W.P.A. The Committee requests, therefore, that it be continued for another year, in order that it may be available for counsel on whatever unforeseen problems may arise.

Respectfully submitted,

K. M. DALLENBACH

C. M. LOUITT

R. R. WILLOUGHBY

A. T. POFFENBERGER, *Chairman*

## REPORT OF THE COMMITTEE ON DISPLACED FOREIGN PSYCHOLOGISTS

*To the Council of Directors and Members of the American Psychological Association:*

The program of the two previous years has been continued, *i.e.* counseling individual scholars who have sought advice, maintaining a central repository of curricula vitae, coöperating with other agencies for refugee aid. As in the past, only a few foreign psychologists have been assisted directly into positions or university fellowships, etc. (16 this year as compared with the same number last year), but through advisory interviews, help with manuscripts, translations, and university library privileges, facilitating attendance at scientific meetings and membership in scientific organizations, the Committee has reached a much wider group (approximately 50). One successful activity sponsored by Allport, Hunt, and Rosenzweig (led by Hunt) during the past academic year was an International Seminar in Psychology, attended by American as well as foreign psychologists in the Boston region.

In spite of the greater difficulties and hazards in transatlantic travel, about 20 émigré psychologists have reached the United States this year (as compared with 30 the previous year). The total number of displaced psychologists (or other scholars with psychological interests) now known to the Committee is 292, of which 159 are in the United States.

Only a small proportion of the group either in this or other countries are in jobs commensurate with their training and experience. The Committee continues to be guided by a policy of developing "created" jobs not in direct competition with jobs of American psychologists, though in some instances such a policy must be set aside in the interest of securing outstanding talent for regular openings in American institutions of learning.

With respect to "created" jobs, it is still possible to arrange for these for certain individuals, but only by intensive labor. The ground which can be covered is thus limited at present by the time which can be spared from their regular work by Committee members or other interested colleagues.

Despite a small deficit of receipts\* with respect to disbursements, the Committee is financially solvent, due to balance on hand at the beginning of the 1940-1941 period.

*Recommendations*

The services which have been rendered by the Committee are likely to be necessary for several years to come, regardless of the extent to which the national emergency may affect the rate of immigration. It is therefore recommended that the Committee continue with its present membership and budget, with the possibility of enlarging the membership during the coming year.

\* A correction should be made in last year's published statement (though not in the books, which are correct): the Western Psychological Association and Southern Society for Philosophy and Psychology each contributed \$50 to Committee expenses.

The need for a clearinghouse of information concerning jobs and for active promotional field work has become increasingly evident during the three years of the Committee's existence. The lack of such facilities has seriously hampered the effectiveness of the Committee's work. It is recommended that the closest coöperation be fostered between the Committee and any personnel and public relations agency that the Association may sponsor in accordance with plans now under consideration by the A.P.A. membership and the Committee on Extension of Functions of the Secretary's Office.

Finally, it is recommended that the position of displaced scholars in the United States during a time of stress and uncertainty be accorded the objective understanding which it deserves; that attitudes which in emergency may polarize toward threatening groups not be permitted to becloud the merits of individuals; that constructive use of scholars of appropriate professional background be encouraged for defense purposes; and that the more general problem of assimilating foreign scholars into the intellectual life of this country be constantly kept in mind by the Officers and Members of the American Psychological Association.

Respectfully submitted,

GORDON W. ALLPORT  
WILLIAM A. HUNT  
GARDNER MURPHY  
D. B. KLEIN  
SAUL ROSENZWEIG  
EDWARD C. TOLMAN  
MAX WERTHEIMER  
BARBARA S. BURKS, *Chairman*

#### REPORT OF THE INVESTMENT COMMITTEE

*To the Council of Directors and Members of the American Psychological Association:*

The surplus funds of the Association are deposited in nine sound banks in Columbus, Ohio; Providence, Rhode Island; Princeton, New Jersey; Los Angeles, California; New York City, New York; and San Francisco, California.

During the year 1940 the savings accounts collected a total of \$754.99 interest.

The average rate of interest on these funds for 1940 was 1.43%, which is slightly less than the average interest rate of 1.50% for 1939.

Respectfully submitted,

LEONARD CARMICHAEL  
SAMUEL W. FERNBERGER  
WILLARD L. VALENTINE, *Chairman*

#### REPORT OF THE COMMITTEE ON THE CONSTITUTION

*To the Council of Directors and Members of the American Psychological Association:*

Your Committee on the Constitution offers the following report:

I. We recommend the revision of Article VI, Section 1, making it read:

1. At least five months before the date set for the Annual Meeting, the Election Committee, constituted in accordance with the provisions of Article VII of these Bylaws, shall issue a call for a nominating ballot for President, which ballot it shall count one hundred and twenty days before the Annual Meeting, and shall thereupon report to all the Members the names receiving a large number of votes. At the same time it shall call for the second or election ballot, which it shall count ninety days before the Annual Meeting, and report the election at the Meeting. The Council of Directors shall propose not fewer than eight nor more than ten Members for the position of member of the Council of Directors; and the Election Committee shall print these names on the election ballot. Elected members of the Council of Directors (not including the President, Secretary and Treasurer) shall not be eligible for reelection to Council. Election shall be by means of a preferential voting system.

COMMENTS. It may be noted that this revision is aimed to take care of several matters, as follows:

(1) An ambiguity several had noticed in the section as it stands lies in the implication in lines 3, 5, and 6 that *Members* were to nominate Council members, and at the same time the clear direction in lines 8 and 9 that the *Council* was to make such nominations. By a majority vote the Committee decided that the latter procedure, which is the one actually in practice, should be stated unequivocally. This found support from an examination of Association Proceedings made by the Secretary, in which he found that when the latter procedure was adopted (in 1934) the former was intended to be discarded.

The Committee has considered suggestions from a few Members, proposing that the former procedure be adopted. What seems the strongest argument for nominations to Council from the general Membership of the Association is that of the more democratic nature of that procedure. One Member writes: "I think—I know, rather—that there is a feeling that a clique tends to control nominations."

What seem strong arguments *against* nominations from Membership are two. One is that Council membership is a definite specialized responsibility, since the A.P.A. is now a major business enterprise including ownership of a number of journals; and nomination thereto should be made by those best acquainted with these responsibilities. Another argument is that the Council could better take into account the geographical distribution, institutional training, and other such factors making for representativeness of the Council-to-be taken as a whole. Thirdly, the above-mentioned argument assuming a supposititious clique is offset by the argument that nominations by the Membership would permit the development of undue influence by institutions with large groups of former students or by caucuses of Members favorable to some special points of view; *i.e.* the "clique argument" may be said to cut both ways. Finally, it may be added that, as all actions of the Council are subject to the approval by vote of the Association, this constitutes a democratic factor of safety, and that the additional machinery and burden of securing and counting votes from the Association Membership should not be resorted to unless and until the demand for it is clear and definite.

(2) A related question brought to the Committee's attention by a few Association Members is whether the *nominating* for President—and nom-



inating for Council, if that be done by Members—ought not to be conducted on a *preferential* ballot system (as is now done in electing to those offices).

On the *pro* side it has been argued that this would be fairer than the straight counting of the ballots. Against this, as a *con* argument, it has been claimed that the outcomes by the two systems would be practically identical if one may judge from analyses of the preferential election ballots made by election committees in the past. The former argument does not seem to outweigh the latter, certainly not sufficiently to warrant the Committee's recommendation of the suggested change.

Accordingly, the Committee is not ready to recommend a change from the present procedure and includes in the above-furnished recommendation of Section 1 the words, "Election [only] shall be by means of a preferential voting system"—as already standing in that Bylaw.

(3) Committee discussion brought out the apparent advisability of securing *turnover* in the membership of the Council. It is thought that continuity of policy as well as utilization of experience in Council matters is adequately secured by the staggered manner of electing only one-third of the Council membership in any one year. And a wider range of interests and viewpoints, as well as more avoidance of the clique type of control, are promised with changes of personnel. Hence our recommendation embodied in the next to the last sentence.

II. We report here the results of the poll taken by authorization of the Council of the Membership of the A.P.A. on the question of the broadening of requirements for full Membership. The alternatives were listed on the ballot by this Committee in the following rank order of broadness:

- ..... (1) Acceptable published research of a psychological character beyond the doctoral dissertation (the present requirement).
- ..... (2) Acceptable published research of a psychological character beyond the doctoral dissertation *or* five years as Associate subsequent to the granting of the doctoral degree plus evidence of acceptable contribution to psychology through research, teaching, administrative, or applied work on a full-time basis during this period.
- ..... (3) Ten years as Associate subsequent to the granting of the doctoral degree.
- ..... (4) Five years as Associate subsequent to the granting of the doctoral degree.
- ..... (5) The doctoral degree alone.

#### RESULTS

Option No.	No. Favorable Votes	% of Total Votes Cast
1	105	21 (.2129)
2	319	65 (.6471)
3	31	6 (.0629)
4	26	5 (.0527)
5	12	3 (.0263)
	493	100 (1.0019)

Total Membership in A.P.A.: 696

Considering the results of this poll as a mandate, we recommend that the following motion be brought before the Annual Business Meeting of the Association.

MOVED: that Article I, Section 6, of the Bylaws be amended as follows:

The following sentences be deleted: "The conditions for Membership shall not be considered as having been fulfilled in the absence of (1) acceptable published research of a psychological character beyond the doctorate dissertation and (2) of the degree of Doctor of Philosophy, based in part upon a psychological dissertation." In place of the foregoing, the following sentences to be inserted: "The conditions for Membership shall not be considered as having been fulfilled in the absence of (1) acceptable published research of a psychological character beyond the doctoral dissertation, or (2) five years as Associate subsequent to the granting of the doctoral degree plus evidence of acceptable contribution to psychology through research, teaching, administrative, or applied work on a full-time basis during this period."

The following words to be deleted from the second sentence of the section: "and, except for special reasons stated in the nomination, no nomination that is unaccompanied by copies of the nominee's published research shall be considered by the Council."

III. We recommend that if Article I, Section 6, of the Bylaws be revised as just recommended by us, or in any other way, changing the requirements for full Membership, attention should be given to the question of the readjustment of dues for Membership and possibly also for Associateship. There has been some expression of opinion without and within the Committee that if the number of Members should be definitely increased as a result of a change in the requirements, then the Association would be warranted in reducing the Membership dues. The Committee is ready to recommend this. There have been other suggestions, such as that dues for Membership and for Associateship might be equalized; but we recognize that any readjustment of dues must be based upon a careful analysis of the financial matters involved undertaken by the Treasurer, the Council, and other officers.

IV. If it should happen that the Association adopt the changes embodied in the motion mentioned in II, above, your Committee is well aware of the difficulties that will then confront the Council in determining in cases of many nominations for full Membership just what are "acceptable contributions" in teaching, in administrative work, and in applied work. Your Committee has had divergent opinions as to whether it is our function to make definite suggestions here. Some members have thought that definite suggestions might lead to premature crystallizing of procedure; some have thought that very definite rules should be offered in the form of a bylaw; most have thought that some outlines of suggested criteria might be offered the Council for whatever they may be worth to them.

It is doubtful whether we—or the Council—could hope to set up measuring rods as objective as those in present use in judging a candidate's research activity, though objectivity is approachable in varying degrees in varying cases. We hope that it will not appear to be out of place for us merely to mention here some criteria that have been suggested by one or another member of the Committee.

*Research*

As at present.

*Teaching*

Letters from co-workers (including nonpsychologists) and from psychologists at other institutions; publication of text- or trade-books concerned with psychological problems.

*Administrative*, except when held by one not a psychologist

Departmental headship; deanship of personnel; directing position in child or mental clinic; directing position in industrial or governmental setup; officer of state academy of science; officer in regional or local (not single institution) psychological society.

*Applied*

Actual clinical practice, private or institutional; paid consulting work in governmental service, in social work, in educational systems or institutions, in industrial or business organizations, or in private work; distinctive achievement in a practical educational project of psychological character. (Some of these are taken from the "Standards for Membership in the AAAP"—which is probably worth consulting.)

V. We recommend that the Committee be continued.

Respectfully submitted,

LUTON ACKERSON  
JOHN E. ANDERSON  
SAMUEL W. FERNBERGER  
R. B. MACLEOD  
KARL F. MUENZINGER  
BRONSON PRICE  
DAEL WOLFLE  
R. S. WOODWORTH  
JOHN F. DASHIELL, *Chairman*

REPORT OF THE COMMITTEE ON AN *Annual Review of the  
Development of Psychology*

*To the Council of Directors and Members of the American Psychological Association:*

This Committee of one was asked "to investigate plans, costs, and probable interest in an annual review of the development of psychology." In the pursuit of this aim the editor of the *Annual Reviews of Biochemistry and of Physiology* was consulted, and a small number of psychologists were questioned informally and individually. No "Gallup poll" of probable purchasers among psychologists was attempted, since this would represent only one segment of the consumers for such a volume. As a statement of preliminary findings the following are submitted for your consideration:

General Statement: The *Annual Review of Psychology*, by analogy to the *Annual Review of Physiology*, would be written as a symposium by recognized contributors. It would attempt to present an annual résumé of

the significant developments in all areas of psychological investigation with a balanced evaluation of them.

Reasons for an *Annual Review of Psychology*:

(1) No psychologist can now pretend to read all the contributions to psychology each year. Outside the fields of his specialties and hobbies he should welcome up-to-the-moment summaries. No source now serves this purpose.

(2) It would furnish excellent secondary reading material for the advanced student, who, likewise, cannot read all primary sources.

(3) The layman, whether scientist or not, would find this an excellent means of "keeping up with psychology." It would impress the leading laymen with the real advances made in psychology. Too often the annual contributions of psychologists are either slighted or distorted or not brought into focus.

(4) It would serve as an annual checkup on the state of health of psychology showing where further advances are needed and are most ready to be made.

Some desiderata for the *Annual Review*:

(1) It should be under the supervision of the American Psychological Association, more directly under the Board of Editors of the Association. (The two Reviews previously mentioned are not so affiliated with any Society.)

(2) The editor should be appointed by the Electoral Board. He might well be named from the growing list of veterans among whom are such men as Woodworth, Bentley, and Seashore. Contributors should be invited by the editor.

(3) The project should be self-supporting from the sale of volumes. Much of the overhead could be absorbed by the present Business Office of the Association. The editor should receive an honorarium. Contributors (as in the present Reviews) need not be paid, except in terms of free offprints and a copy of the volume.

Possible duplications with other publications:

(1) *Psychological Abstracts*. This, by contrast, is unorganized, lacking in evaluation and highlighting. The *Review*, on the other hand, would not attempt to give complete bibliographies.

(2) *Psychological Bulletin*. Reviews such as now appear in the *Bulletin* could be reduced in frequency on each topic. But this kind of review would still perhaps be necessary, to show trends over periods longer than one year.

(3) *Annual Review of Physiology*. The editors of this and of the *Review of Psychology* would need to consult on questions of unwarranted duplication. This Review now includes chapters prepared by several psychologists, giving the appearance that contributions so presented are really physiological, whereas many of us would regard them as psychological. The two Reviews could well be supplementary.

Recommendation: That the Board of Editors of the Association, with the Treasurer, be requested to consider the question of publication of an *Annual Review of Psychology* and report their recommendation to the Council in its annual meeting of 1942.

Respectfully submitted,

J. P. GUILFORD, *Chairman*

REPORT OF THE COMMITTEE ON EXTENSION OF FUNCTIONS  
OF THE SECRETARY'S OFFICE

To the Council of Directors and Members of the American Psychological Association:

As a result of a recommendation of the Committee on Personnel, Promotion, and Public Relations, the Association voted at the 1940 meeting

to create a Committee on Extension of Functions of the Secretary's Office with duties indicated by its title. The report of the Committee falls into three sections: I. Results of a Questionnaire to Associates and Members; II. Inquiries Among Associations and Individuals; III. Recommendations.

#### I. RESULTS OF A QUESTIONNAIRE TO ASSOCIATES AND MEMBERS\*

With the coöperation of the Committee on Personnel, Promotion, and Public Relations your Committee prepared and circulated on April 15, 1941, the following questionnaire on policies. The blank went to 683 Members and 2254 Associates with a return addressed, unstamped envelope. As a measure of economy the blank was enclosed with other material on the Annual Program distributed by the Program Committee.

Dear Member or Associate:

The Committees wish the benefit of your judgment on a series of important questions concerned with the proposed extension of duties of the Secretary's office. It is unnecessary to sign the questionnaire. Please return at once to the Secretary in the enclosed envelope.

Please indicate your reaction to the questions by encircling Yes, No, or ? following each item.

1. If the scheme can be financed would you favor the extension of the functions of the Secretary's office to include:
  - a) **Placement service:** central files of Members and Associates available for positions, with active assistance in bringing person and position together? ..... Yes No ?
  - b) **Promotion service:** calling attention of schools, colleges, institutions to the standards maintained by the A.P.A., and creating in a dignified way a demand for psychologists in centers not now employing psychological service? ..... Yes No ?
  - c) **Public relations:** cooperation with press services and similar agencies, and heading up all other activities involving public relations in which the Association is concerned? .... Yes No ?
  - d) **Extension of membership:** active attempts to interest qualified psychologists in membership? ..... Yes No ?
2. If a central repository of personnel data were created (See 1a), would you be likely to make use of it
  - a) as employer? ..... Yes No ?
  - b) as candidate for a position? ..... Yes No ?
3. Do you believe such an office could be self-supporting? ..... Yes No ?
4. Do you believe its facilities should be made available to affiliated societies on a cost basis? ..... Yes No ?
5. Are you willing to have the schedule you filled out for the National Roster of Scientific and Specialized Personnel copied and filed in a central depository in the Secretary's office? (Check here if you did not fill one out ☐ ) ..... Yes No ?

\* Parts I and II of this report were prepared and written by Willard C. Olson, Secretary.



Indicate your status and opinion below by checking, underlining, and filling in the blanks.

6. Are you a man? \_\_\_\_\_ or a woman? \_\_\_\_\_.
7. Are you now an Associate? \_\_\_\_\_. If a Member, were you elected before 1921 \_\_\_\_\_; between 1921-1930 \_\_\_\_\_; between 1931-1940 \_\_\_\_\_?
8. I believe the initial salary for a full-time Secretary should be \_\_\_\_\_ dollars for an annual appointment with a vacation of one month.
9. I believe the position of Secretary should: (a) carry permanent tenure with salary increase and retirement provisions \_\_\_\_\_; (b) be for a term of \_\_\_\_\_ years.
10. I (would, would not) accept the position as described at the above salary.
11. I (would, would not) accept such a position on a one-half time basis on one-half of the above salary while retaining my present affiliations.
12. My present salary is \_\_\_\_\_ dollars, adjusted to eleven months full-time employment with one month vacation.
13. In what city or part of the country do you think a permanent secretariat, if established, should be located?  
\_\_\_\_\_
14. I believe the secretariat should: (a) be located at a university \_\_\_\_\_; (b) be independent of any institution \_\_\_\_\_.
15. I believe the secretariat (should, should not) be combined eventually with that of Business Manager of Publications and Treasurer.
16. Would you be willing in order to finance extension of the Secretary's functions to increase dues by the amount of \$1.00 \_\_\_\_\_, \$2.00 \_\_\_\_\_, \$3.00 \_\_\_\_\_, \$4.00 \_\_\_\_\_, \$5.00 \_\_\_\_\_?

Two hundred and fifty-two, or 36.9%, of the Members and 632, or 28.0%, of Associates responded for a total response of 30.1% from the membership. The summary of the returns follows.

#### *A. Desirability of Extension of Functions of Secretary's Office*

The implication of the results of the first five items tallied in Table I is rather clear. If the scheme can be financed, Members and Associates agree that an extended secretariat should include attention to placement (87.6%), promotion (91.6%), public relations (87.6%), and extension of membership (52.2%). A substantial number (39.9%) of respondents say that they would use a central repository of personnel data as an employer. A very large fraction of Associates (75.0%) would use it as candidates for positions, although a minority of Members (30.2%) are clear that they would make such use. Only 39.2% of Associates and 26.6% of Members believe that an extended office could be made self-supporting.

The following quotations from correspondence indicate further some of the possible types of services of an extended secretariat:

One well-organized syndicated feature, sponsored by the A.P.A., appearing once a week, each article written by a different psychologist, would comfortably pay all the expenses of the secretariat.

He should travel the country widely, visiting departments of psychology



hither and yon in order to become well versed in the lore of what is done in one place and another when emergencies arise.

Any such service should, it seems to me, attempt to reach out into various applied fields . . . it would seem that such a service might, perhaps, sponsor something which is now long overdue, a responsible popular magazine in psychology.

I believe that placement should be considered eventually in connection with: (a) number of psychologists graduated annually, (b) the nature and extent of the professional training, (c) the opportunities for nonacademic employment of psychologists.

A number of persons stated by letter or marginal notes their objection to the proposed extension or indicated that the services should be performed by the American Association for Applied Psychology. Others suggested the need, at least, for study and integration. A sample quotation follows:

If these things are started, it will mean a change of the character of the A.P.A. from a scientific society to a professional organization. . . . But certainly if this change is voted, the Membership should realize what the change means. Personally, I should rather see these services started by the A.A.A.P., which is frankly a professional organization and, as such, the scheme falls into their pattern.

The endorsement of plans for availability of facilities to affiliated societies is 68.5% of the total replies.

Authorization was given at the 1940 meeting to expend funds in developing any coöperative policies possible with the National Roster of Scientific and Specialized Personnel. A question on willingness to have Roster data transferred was included. All but 35 Associates and 20 Members had filled out the schedule for the Roster. Some of these were retired, inactive, or not citizens of the United States. Few persons had any reservation against the use of their data in the Secretary's Office, with a favorable response of 85.2%. A number, however, questioned by marginal notes whether a duplicate set would be of any service, particularly since qualified persons might use the Washington file.

#### *B. Location of the Secretariat*

The membership was asked: "In what city or part of the country do you think a permanent secretariat, if established, should be located?" The variable verbal response permitted resulted in a variety of replies, most of which could be grouped rather readily. A broad geographic grouping is given in Table II.

TABLE II  
LOCATION OF A PERMANENT SECRETARIAT

Section	Associates		Members		Total	
	N	%	N	%	N	%
East	90	14.3	44	17.5	134	15.2
Middle West	319	50.5	111	44.0	430	48.6
East or Middle West	114	18.0	45	17.9	159	18.0
Miscellaneous or omitted	109	17.2	52	20.6	161	18.2
Total	632	100.0	252	100.0	884	100.0

The preference for a location in the Middle West is clear and has further justifications in the center of gravity of the membership, expenses of travel, and costs of mailing. In a separate analysis by states Illinois leads by being mentioned 163 times while New York follows with 36 ballots. In an analysis by cities, Chicago alone or in combination with other cities is mentioned 242 times, while New York is similarly mentioned 99 times, and Washington, D. C., 41 times.

The Committee felt it desirable to secure a response to the further question (14) as to whether a secretariat, if established, should be located at a university or be independent of any institution. The ballot favors an independent location by an endorsement of 60.9% in all blanks returned (Table III).

TABLE III  
UNIVERSITY vs. INDEPENDENT LOCATION

	Associates		Members		Total	
	N	%	N	%	N	%
University	145	22.9	88	34.9	233	26.3
Independent	406	64.3	132	52.4	538	60.9
Omitted	81	12.8	32	12.7	113	12.8
Total	632	100.0	252	100.0	884	100.0

An earlier committee of the Association was charged with the responsibility of studying the possibility of having a central office plus personnel for a Secretary-Treasurer and Business Manager of Publications. No action was taken on the basis of the report filed at the 1937 meeting (see Proceedings, *Psychological Bulletin*, November, 1937, p. 649). The Committee felt it advisable to question the membership again on the issue. The responses represented one of the few instances in which the majority of Associates did not agree with the majority of Members (Table IV.)

TABLE IV  
EVENTUAL COMBINATION OF SECRETARY'S OFFICE WITH OFFICE OF  
TREASURER AND BUSINESS MANAGER OF PUBLICATIONS

	Associates		Members		Total	
	N	%	N	%	N	%
For	229	36.2	118	46.8	347	39.2
Against	282	44.6	83	32.9	365	41.3
Omitted	121	19.2	51	20.3	172	19.5
Total	632	100.0	252	100.0	884	100.0

The actual total vote against is knife-edged (39.2% to 41.3%), and in the large number of qualifications and omitted responses persons indicated that a decision might finally rest on economic or other grounds on which they did not feel informed. Marginal notes brought out the distinction that a physical combination on location might be made with different appointees for the functions.

Other things being equal, the Associates and Members believe that a permanent secretariat, if established, should be located in the Middle West. Chicago, Illinois, is the most frequently mentioned specific loca-

tion. The secretariat should be kept independent of an institutional location, and the total ballot is slightly against combination with the office of Treasurer and Business Manager. If Members alone are considered, there is some preference for such a step.

### *C. The Tenure of the Secretary*

In the discussion of an extended secretariat it has been mentioned frequently that the position should be made sufficiently attractive to command the services of a person with an outstanding reputation in psychology. Some believe that the only way to secure such a person is to guarantee permanent tenure with provisions for salary increase and retirement comparable to the best university positions. Others have thought more in terms of a permanent location for a secretariat with extended functions, but not necessarily a permanent Secretary. Your Committee questioned the membership on this point and the predominant sentiment was for a term appointment for Secretary (Table V). The combined

TABLE V  
TENURE OF THE SECRETARY: PERMANENT *vs.* TERM APPOINTMENT

	Associates		Members		Total	
	N	%	N	%	N	%
Permanent	249	39.4	72	28.6	321	36.3
Term	277	43.8	130	51.6	407	46.0
Omitted or void	106	16.8	50	19.8	156	17.7
Total	632	100.0	252	100.0	884	100.0

approval of Associates and Members was 46%, to be contrasted with the 36% favoring the permanent appointment. Some respondents were quite vehement in their opinion on this question, and the opposition to permanent tenure is very well stated in the following quotation from a Member:

... I have some convictions on the basis of long experience. If you want an organization to go stale, give it a permanent secretary on salary. On the other hand, if you want the association to prosper and be up-to-date, select as secretary one of the live men in the field, who is at the front ranks with productive scholars and a real influence in the executive board. Limit the tenure to five years, allow him to continue his academic salary, supplement this with a nominal amount, and provide a competent woman assistant who is both stenographer and office secretary with permanent tenure. Such an office secretary can handle all the routine work of the office with great competence and economy.

The Members and Associates favoring a term appointment were further questioned concerning the best length of term. A range from monthly appointment to 10 years was obtained. The most frequently mentioned term in Table VI is 5 years. There is another piling up of frequency at the present term of 3 years, and the mean is intermediate at slightly over 4 years. Twenty-five Associates and 14 Members favoring a term made a marginal note that the Secretary should be eligible to succeed himself. Some suggested the term as a preliminary to permanent appointment.

The Committee concludes that the Association at its present stage of thinking is not ready to appoint a permanent Secretary with tenure, but would prefer to appoint a Secretary with a term of 5 years.



TABLE VI  
RECOMMENDED LENGTH OF TENURE AMONG THOSE FAVORING  
TERM APPOINTMENTS\*

Term	Associates	Members	Total
6 or more	11	7	18
5	101	51	152
4	32	8	40
3	60	26	86
2	21	3	24
1	4	1	5
0	1		1
Total	230	96	326
Mean	4.02	4.31	4.11

\* Forty-seven Associates and 34 Members favoring a term did not state length.

*D. The Salary for a Full-time Secretary*

Associates and Members were asked to name a suitable salary for a full-time Secretary, assuming that he would have one month of vacation each year. The responses were analyzed separately by Associates and Members and by men and women (Table VII). The most frequently

TABLE VII  
PROPOSED SALARY FOR A FULL-TIME SECRETARY\*

Amount	Associates			Members			Total		
	M	W	T	M	W	T	M	W	T
\$7,750 and above	3		3				3		3
7,250-7,749									
6,750-7,249		1	1					1	1
6,250-6,749	1		1	1	1	2	2	1	3
5,750-6,249	11	3	14	1		1	12	3	15
5,250-5,749	1		1	5		5	6		6
4,750-5,249	45	14	59	42		42	87	14	101
4,250-4,749	13	2	15	11	2	13	24	4	28
3,750-4,249	59	6	65	26	2	28	85	8	93
3,250-3,749	65	13	78	26	3	29	91	16	107
2,750-3,249	117	33	150	27	7	34	144	40	184
2,250-2,749	40	16	56	16	4	20	66	20	76
1,750-2,249	19	6	25	4	5	9	23	11	34
1,250-1,749	5	1	6		1	1	5	2	7
750-1,249	1	1	2				1	1	2
N	380	96	476	159	25	184	549	121	660
Median	3,312	3,114	3,247	3,875	2,929	3,733	3,445	3,082	3,375

\* One hundred and sixty-eight Associates and 68 Members did not respond to this question.

mentioned salary was in the bracket \$2,750-\$3,249. The median values ran higher, male Members giving a median value of \$3,875 and male Associates \$3,312, with a composite of \$3,445 for all men. Women suggested lower salaries, with the median for Associates at \$3,114, Members

TABLE VIII  
THE SALARY OF ASSOCIATES AND MEMBERS ADJUSTED TO 11 MONTHS FULL-TIME EMPLOYMENT WITH ONE MONTH VACATION\*

Salary	Associates		Members		Total Associates and Members	
	M	T	M	T	M	T
\$11,750 and above	1	1	1	2	5	5
11,250-11,749						
10,750-11,249	1	1			1	1
10,250-10,749						
9,750-10,249			1	2	2	2
9,250-9,749			1	1	1	1
8,750-9,249	1	1	2	2	3	3
8,250-8,749						
7,750-8,249	2	2	1	2	4	4
7,250-7,749	1	1	3	3	6	7
6,750-7,249			7	11	11	12
6,250-6,749	3	3	3	4	7	7
5,750-6,249	3	7	1	8	11	16
5,250-5,749	9	9	3	16	25	25
4,750-5,249	12	13	8	20	32	35
4,250-4,749	18	24	4	13	31	42
3,750-4,249	34	42	1	28	62	73
3,250-3,749	53	66	2	21	74	93
2,750-3,249	65	78	1	16	83	105
2,250-2,749	92	121	1	7	101	131
1,750-2,249	67	88			67	88
1,250-1,749	17	33			17	33
750-1,249	14	5			14	5
250-749	10	2			10	2
Below 250	3	1			3	1
N	406	526	32	89	570	718
Median	2,750	2,509	6,750	3,847	3,190	2,733
		2,692	5,051	4,481	2,450	3,093

\* One hundred Associates and 60 Members who were unemployed, retired, students, or who did not report are omitted from the tabulation.

at \$2,929, and a total of \$3,082. All respondents considered together yield a median value of \$3,375.

It was believed to be of some interest to determine how Associates and Members viewed the position of Secretary in relation to their own salary. They were first asked to adjust their salaries to 11 months full-time employment with one month vacation (Table VIII). One cannot, of course, be sure as to the uniformity and accuracy with which this was done. The highest salary reported was \$27,500. The values are probably somewhat depressed at the other extreme by persons on stipends as Assistants and Fellows. As would be expected, the women are not paid as well as the men for their services. The Associates, on the average, are willing to pay a Secretary more than they themselves receive, while the Members indicate he should receive less than they themselves receive. It should be recalled, of course, that many of the Associates are very recent additions to the field of psychology while the Secretary presumably would be a man of experience. If one considers the total returns, the membership is willing to pay the Secretary approximately \$300 more than their own salaries adjusted to an annual basis.

The wide scatter on salary proposals indicates a lack of unanimity on the type of person to be recruited as Secretary and the functions he would perform. Those advocating the higher salaries indicate by marginal notes that they have in mind a person who would compare favorably with outstanding professors and department heads. At the other extreme, some mention salaries at the clerical level. Taken as a whole, the median respondent advocates a salary slightly less than that characteristic of the adjusted salaries of recent transfers from Associate to Member.

#### *E. Willingness of Members and Associates to Assume Duties of the Secretary*

The selection of a Secretary always raises a question as to the persons who are available for appointment. The question of willingness to assume the duties of the secretariat under the conditions that each defined was raised with Associates and Members. Forty-seven and three-tenths per cent of Associates, 71.8% of Members, and 54.3% of all respondents would not assume the duties under such conditions (Table IX). Associates are slightly less ready, and Members slightly more ready, to assume such work on a half-time basis. The willingness to assume secretarial duties among Members decreases with length of membership. No attempt was made in this report to determine intercorrelations between individual salaries received and advocated.

It appears clear that the absolute number of favorable responses would insure a numerically adequate field of candidates for the position on a full-time or half-time basis. The field would, of course, be reduced if geographic specifications were added.

#### *F. Financing an Extension of the Secretariat*

A showing of hands at the 1940 meeting indicated some sentiment for an increase in dues, if necessary, for an extension of secretarial services. Responses to Item 3 in the questionnaire did not indicate any general

TABLE IX  
WILLINGNESS OF ASSOCIATES AND MEMBERS TO ASSUME DUTIES OF SECRETARIAT UNDER THE CONDITIONS THEY HAVE DEFINED  
(ITEMS 10 AND 11)

	Full-time			Half-time			Total N
	Would N	%	Omitted N %	Would N	%	Omitted N %	
Associates	218	34.5	292 47.3	115 18.2	167 26.4	351 55.5	632
Members							
Before 1921	3	4.3	51 72.8	16 22.9	4	5.7	70
1921-1930	10	14.5	48 69.6	11 15.9	13 18.8	43 62.3	69
1931-1940	19	17.3	81 73.6	10 9.1	22 20.0	74 67.3	110
Not designated			1 33.3	2 68.7	1 33.3	1 33.4	3
Total Members	32	12.7	181 71.8	39 15.5	40 15.9	159 63.1	252
Total	250	28.3	480 54.3	154 17.4	207 23.4	510 57.7	884

acceptance of the idea that the service could be made self-supporting and elicited some arguments against self-support even though it might be possible. Item 16 in the blank was designed to secure information on the willingness of Members and Associates to finance the extension by an increase in dues. Table X reveals that the modal Associate would be

TABLE X  
WILLINGNESS TO INCREASE DUES FOR EXTENSION OF SERVICES (ITEM 16)\*

Amount	Associates Frequency	Members Frequency	Total Frequency
\$5.00	22	23	45
4.00	15	1	16
3.00	57	18	75
2.00	198	77	275
1.00	265	66	331
0.00	34	39	73
Total	591	224	815
Mean	\$1.70	\$1.75	\$1.72

\* Forty-one Associates and 28 Members omitted the question.

willing to accept an increase of \$1.00 and the modal Member one of \$2.00. The means of the distributions, ignoring blanks, are \$1.70 (Associate) and \$1.75 (Members), respectively, with \$1.72 for the total.

A number of those saying "No" wrote in that they believed that the placement service should be made self-supporting.

## II. RESULTS OF INQUIRIES AMONG ASSOCIATIONS AND INDIVIDUALS

### A. Problems Created by Refugees and by the War Emergency

It has been the experience of the past few Secretaries that employers practically never write to the Secretary, in his capacity as Secretary, for assistance in placement. A sprinkling of requests from nonmembers, Members, and Associates, for assistance in finding positions is characteristic of a normal year of operation. In the last year or two, requests, usually from some Member, to assist in the placement of a refugee have been about as frequent as all other types combined. It is also known that the Committee on Displaced Foreign Psychologists has had a problem in finding appropriate contacts for displaced psychologists.

More recently it has been called to the attention of the Secretary that the Emergency Committee on Psychology would like some attention given, in case a comprehensive system is developed, to the problem of temporary replacements for persons called for emergency activity. The theory would be that qualified retired psychologists, psychologically trained wives who have left active teaching and research, and others willing to accept temporary appointment might be listed to assist in meeting such a need. Such a step might also prevent inflation, which would present a post-war problem.

The Eastern Psychological Association has recently created a committee to plan for an employment exchange.

In connection with the emergency it has also been argued that a



Secretary with the necessary time might have been of some assistance in coordinating various war-related activities. Others have argued that this is debatable, since psychology is already so eminently represented at strategic points.

*B. Proposal for a National Survey Looking Forward to the Possible Creation of a Personnel Service for Sciences and the Profession*

As this report is being written, correspondence is being exchanged between interested persons in New York, Washington, and elsewhere on the possibility of again creating a national placement service for members of scientific and professional groups. It has been pointed out that the development of modern mechanical equipment for selection has increased the likelihood of successful central operations. Such an agency, if created, might eventually prove to be a clearinghouse for psychologists. The precise relationship might require more extensive study and effort.

*C. Evidence on Previous and Present Attempts of Societies to Operate Placement Services*

Despite the widespread interest of the membership in some type of information or placement service, the Committee has been unable to obtain any evidence that such a service can be operated with marked success by a society. Four engineering societies with extensive memberships have collaborated on a joint Engineering Societies' Personnel Services, Inc., since the early twenties. It charges fees for placement and is incorporated under the laws of the State of New York. The experience of the National Research Council and the American Council on Education in early attempts to operate services which would serve as a clearinghouse for scientific and professional personnel has also been examined. Both enterprises represented a substantial annual investment. The American Council service is described hopefully in the *Educational Record* during the years 1922, 1923, 1924, and 1925, but was finally dropped because of the limited funds available. The record of experience is worthy of study by others interested in the field. The National Research Council effort used psychologists as guinea pigs, and Bingham prepared a report based upon the personnel information filed. The enterprise encountered financial difficulties.

During the current year the Council appointed Joseph Zubin as a representative of the Association to the Division of Personnel of the National Committee for Mental Hygiene. In the first seven months of 1941, 72 individuals applied for positions as psychologists while 9 calls were received from organizations for services. Seventy-five per cent of the applicants were a miscellaneous group of individuals who were not members of any professional organization.

Although no intensive canvass of societies was made, correspondence elicited the name of but one attempting an active placement service. The experience of Society A, as described below, does not up to this time seem promising for the type of service envisaged by the membership. It is hoped that members reading this report will call the attention of the Committee to any other society offering what would be described as an active placement service.

*Society A*

Society A has operated a placement service for two years in connection with the office of the Executive Secretary. The Secretary serves without salary, and such time as he gives is donated by the University. The office is also furnished rent-free. The office is under the immediate direction of an Office Manager who is paid \$2,400 a year and who supervises the work of three additional secretaries on full time. The office handles the placement service, the various secretarial duties, the promotion of membership, and the collection of dues. There are about 3500 active members in the association. The placement service is offered to members at a price of \$2.00 a year for enrollment, and 500 members are currently availing themselves of this privilege. During the past year 78 notices of vacancies were received in the office, and it is estimated that 15 places were filled primarily through the placement service. The \$1,000 collected from members probably covers the added cost of the placement project, but cost accounting is difficult because of the various functions performed by the office. The Secretary estimates that he donated \$500 of his own time to the placement service. Costs average about \$3.00 per member enrolled or \$100 per member placed. The plan places responsibility for credentials on the member for both initial materials and recommendations and for keeping files up-to-date in cases of re-enrollment. The placement activities result in a great many headaches since so few persons are actually helped in return for their fees. Very few of the outstanding jobs in the profession are cleared through the placement service of Society A.

Certain other societies were encountered offering a listing service in their official magazine or a personnel information service as a separate document carrying more extended information than the usual Yearbook entry and confined to those actually seeking positions. These appear to be able to secure the names of many persons who desire positions, but employers are unwilling to file announcements of positions. Societies B and C, as described below, are examples of the type, and Society D presents an interesting variation.

*Society B*

Society B, with about 3400 members, has operated a listing service without charge in its official publication for the last 20 months. A code enables the Secretary to bring applicant and employer together. Sixty-six applications for positions have been announced. One vacancy has been reported for publication. Most administrators prefer not to make public announcements of positions for fear they will attract the least desirable applicants. Only 10 employing officials have made inquiry to date, and these inquiries affected 29 applications. Although there is no direct way of checking results, the Secretary has knowledge of two applicants placed through this medium.

*Society C*

Society C, with about 3000 members, has operated a personnel service for 10 years in the form of a mimeographed directory of information about persons interested in jobs. About 1400 statements of qualifica-

tions for almost 700 registrants have been circulated to 1000 administrators and heads of departments. In several reviews it appears that only a relatively few placements can be surely attributed to the service. Slightly over half of the registrants in one follow-up favored continuance of the activity. The publication costs just under \$800 a year for 300 names without any charge for secretarial time or correspondence concerning special cases. Recently, members who used the service a second time have been assessed \$2.00.

#### *Society D*

Society D enrolls over 26,000 scientific and professional men and has an annual income and expenditure of over a half-million dollars. The Secretary's Office reports that Society D has never operated an employment bureau and has carefully avoided doing so because it is in no position to be held responsible to the employer or employee with satisfaction on either side. Society D is enthusiastic about the Employment Clearinghouse operated at its semiannual meetings, where employer and employee get together for personal contact, from which they make their own decisions. The local A.P.A. Committee at the Pennsylvania State meeting in 1940 conducted a similar service with gratifying results, and the technique probably deserves repetition at future meetings. Society D also sets aside space in its official publication for members seeking employment.

The Committee has felt that this account would be incomplete without quotations based on correspondence or interviews with persons qualified to speak.

Interviews with two directors of university bureaus of appointments revealed that it was their impression that placement services conducted by national professional societies had not been very successful.

The following is quoted from a letter from a head of a department of psychology:

I feel very strongly that the A.P.A. and E.P.A. must not run the risk of antagonizing many of their members by trying to carry out the full services of a placement bureau. There is no way in which absolute objectivity of the secretariat can be guaranteed; and there are sure to be many with hurt feelings who are sure that their qualifications are better than those of somebody else who landed a job. On this basis, we strongly urge that objective material, regarding age, training, teaching experience, publications, etc., be gathered and coded, with, let us say, two letters about each person, such letters to be made available to all inquirers. The function of the secretariat, upon receipt of a specific request indicating a person of specified age, sex, training, research, interests, etc., would be to give the information in hand, but never to push one candidate ahead of another.

The following is quoted from a letter from a psychologist and graduate school dean:

When the ——— was started we were enthusiastic about setting up such a service and got an initial grant of about \$10,000 from a foundation. It was well set up and a good man was in charge, but it simply went against the stream. It was not a success and was abandoned after I think about a half a dozen years with a dead loss of the original and annual investments.

From an officer of the Association:

From the information that I have been able to pick up from several different sources, it seems that the operation of a placement agency by the Association is extremely unwise due to the expense involved. The usual experience is that the competent people have jobs anyway so that you are shortly left with only the incompetents in your files.

From a former Secretary of the American Psychological Association:

Consideration of the way positions are filled will make it clear why such centralized efforts have been futile. Those looking for psychologists consult the nearest department of psychology or consult existing departments of psychology at the source of training. Each department being anxious to place students takes an active interest in answering such inquiries. Also, many universities maintain placement bureaus which supplement the efforts of individual departments. So long as this situation continues, I do not believe that a national office can effectively serve as a clearing house because prospective employers cannot be persuaded to use such a national service.

### III. RECOMMENDATIONS OF THE COMMITTEE

#### A. *Estimated Expenses for a Secretary's Office*

If an office were to be set up independently of an institution interested in subsidizing scientific pursuits, provision would need to be made for office rental and office equipment. It is probable that office rental in the less desirable locations would amount to \$25 per room or as much as \$50 per month for adequate housing, for a total of \$600 a year. In addition, it would be necessary to equip the office with desks, filing cabinets, typewriters, and duplicating equipment or service. This might easily involve the Association in an additional initial expenditure of \$500 or more. The Committee feels that these extra costs at this time outweigh the advantages of an independent location.

The Committee is definitely of the opinion that it would be unwise to recruit a Secretary with guaranteed tenure and believes that it would be difficult to secure the type of person desired on full time without some guarantee as to tenure. It therefore recommends that further planning be in terms of a Secretary on part time at a salary in the vicinity of \$2,500, to be assisted by a full-time office secretary at a salary of about \$1,600. Since it will be desirable to give the Secretary mobility, the Committee estimates that at least \$250 should be placed at his disposal for transportation, or that a corresponding amount should be added to his stipend with the understanding that he would pay his own travel to the annual meeting and to two or three regional meetings.

It is probable that no additional amount would need to be appropriated for meeting the incidental costs of the Secretary's Office for printing, postage, and supplies except as these needs are enlarged by the development of placement activities. It is recommended that the placement or information activities, to the extent developed, be performed on the basis of an annual registration fee designed to handle the added cost. The Committee feels that a limited information exchange and a clearinghouse at the annual meeting might suitably be the Association's first effort in the field, with the possibility of expansion as experience would warrant.



Since the Association now pays \$1,500 a year for Secretarial services, the \$4,350 contemplated in the above plan would be an addition of \$2,850, which is approximately the amount that would be yielded by an increase in dues of \$1.00 for Associates and Members.

*B. Recommendations for Action by the Association*

In order to place the matter officially before the Association the Committee recommends the adoption of the following resolution:

The American Psychological Association at its 1941 annual meeting resolves that it is committed to an extension of secretarial services and indicates its willingness to increase dues by \$1.00 for Associates and Members, if and when needed, to finance the increased services.

If action on the foregoing resolution or some variation of it is favorable, the Committee recommends as follows:

(1) That the present Committee on Extension of Functions of the Secretary's Office be continued for one year and provided with a budget of \$250 for necessary expenses.

(2) That this Committee be charged with the responsibility of negotiating for the location of a secretariat and for the appointment of a Secretary and of reporting the outcome of these negotiations to the Council before the next annual meeting.

(3) That the Council be instructed to bring before the 1942 meeting the necessary recommendations for any needed constitutional amendments, change in dues, and definition of the functions of the Secretary.

(4) That the Council be prepared to make recommendations concerning persons, locations, and dates of beginning of the new service in case the action of the Association on enabling legislation is favorable.

Respectfully submitted,

WILLARD C. OLSON, *Secretary*

WILLARD L. VALENTINE, *Treasurer*

HERBERT WOODROW, *President and Chairman*

REPORT OF THE COMMITTEE ON PERSONNEL, PROMOTION,  
AND PUBLIC RELATIONS

*To the Council of Directors and Members of the American Psychological Association:*

With the results of the ballot obtained last spring from our membership on the items recommended by this Committee before you, you must now be well aware that the membership, by a large majority, has approved the proposals made in the supplementary report of this Committee presented to you at the time of the Pennsylvania State Convention in September, 1940. We of the Committee feel highly gratified that we should have so perfectly perceived the trend of thought of our membership. We also believe that it is now the responsibility of the Council to bring about the changes proposed as rapidly as may be practicable.

The Committee would further recommend that the Council give serious consideration to the following possibilities:



(1) That Article I, Section 2, of the Bylaws be amended to read: "Advancement of Psychology as a science and as a profession."

(2) That the wisdom be considered of a consolidation of the business now done by the Treasurer's Office with that of the proposed expanded Secretary's Office. This would apply especially to the publication of our journals.

(3) That in all plans for reorganization and expansion of offices and functions of the A.P.A. every possible effort be made to coöperate with comparable efforts already initiated by affiliated societies of psychologists.

(4) That so long as the emergency exists, the Committee on Displaced Foreign Psychologists be given rank as a coördinate committee of the American Psychological Association. Presumably, this Committee should utilize whatever assistance may become possible through a full-time Secretary's Office. And it may be hoped that within a few years, at most, the need for this Committee may disappear.

(5) The possibility of establishing a permanent Committee of five on Publicity and Public Relations. In the establishment of such a committee, we believe it would be wise to provide for certain of its members to hold office over a period of years. It should include provision for a local member at the place of each annual convention.

Finally, it is the belief of this Committee that the Council, through the vote of the membership, now has ample authorization to proceed. The work of the present Committee should, therefore, be terminated, and we consequently recommend that the present Committee be dismissed.

Respectfully submitted,

GORDON W. ALLPORT

BARBARA S. BURKS

HAROLD E. BURTT

HENRY E. GARRETT

B. F. SKINNER

EDMUND S. CONKLIN, *Chairman*

# REPORT OF THE COMMITTEE ON OBSERVANCE OF THE FIFTIETH ANNIVERSARY OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION AND THE CENTENNIAL OF WILLIAM JAMES

*To the Council of Directors and Members of the American Psychological Association:*

The Committee has corresponded with 66 past officers of the Association and present officers of affiliated societies in order to secure their advice concerning the nature of the celebration in 1942.

A majority of these correspondents, not large, favored separate commemorations of the founding of the Association and the birth of William James, for the reason that neither event can be adequately commemorated in a single session, and the Committee, agreeing heartily with this judgment, has accepted it.

A large majority of the correspondents desired special sessions for the presentation of important scholarly papers, prepared for subsequent publication, and also for the re-creation of the atmosphere of 1892. The Com-

mittee believes that these two wishes can be realized by the presentation at each session of two or three formal papers, supplemented by informal reminiscence. With authorization from the Council, the Committee has already invited speakers for the formal papers and received their acceptances.

The Committee hopes also to arrange for an Apparatus Exhibit *as of the late Nineteenth Century* and would welcome suggestions from members as to interesting pieces which could be included.

It seems probable that a William James Exhibit can also be arranged to show manuscripts and other materials from the William James Collection that has been compiled by Mr. Henry James.

The Committee recommends that provision be made for the publication of the formal papers, and perhaps of other materials from the commemorative sessions, in a special number of the *Psychological Review*.

Respectfully submitted,

JOHN G. BEEBE-CENTER

SAMUEL W. FERNBERGER

EDWIN G. BORING, *Chairman*

#### REPORT OF THE REPRESENTATIVES TO THE COUNCIL OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

##### *To the Council of Directors and Members of the American Psychological Association:*

The one hundred sixth meeting of the American Association for the Advancement of Science was held in Philadelphia, Pennsylvania, from December 27, 1940, to January 2, 1941; the meeting of Section I (Psychology), on December 28 and 30. Your representatives attended and participated in the meetings of the Council and the Section Committee, and are happy to be able to report that the relations between the American Psychological Association and the American Association for the Advancement of Science continue to be cordial and to the advantage of both Associations. Perhaps the most notable feature of the program of Section I was a symposium on "Psychology and the National Emergency," in which seven psychologists effectively took part.

The membership of the American Association for the Advancement of Science has now reached slightly more than 21,000, of which 1769 are members of Section I. Of this number 792 are Fellows of the Association. The more definite codification of procedure for the election of Section officers, which was mentioned in our report of last year, has been completed and adopted by the Section Committee. It is designed to increase further the democratic participation of psychologists in the election of officers. The newly elected officers of the Section are: Vice-President—Edmund S. Conklin, Indiana University; Secretary—Arthur W. Melton, University of Missouri; Committee Member—Edna Heidbreder, Wellesley College.

The Council of the Association had under discussion a number of matters which are important to psychologists. One of these concerned the Association's publications which a committee has been appointed to consider. The Eastern Psychological Association was admitted as an affili-

ated society. The fundamental idea of the National Roster of Scientific and Specialized Personnel, both for the purposes of defense and of peacetime, was approved. A resolution, bespeaking the coöperation of the British Association for the Advancement of Science "in attempting to formulate, upon scientific principles, an international charter for democracy," was passed and cabled to the British Association.

We again express our belief that continued and active participation of psychologists in the affairs of the American Association for the Advancement of Science should be encouraged.

Respectfully submitted,  
WALTER R. MILES  
JOHN A. MCGEOCH

REPORT OF THE REPRESENTATIVE OF THE AMERICAN PSYCHOLOGICAL  
ASSOCIATION ON THE AMERICAN DOCUMENTATION INSTITUTE

*To the Council of Directors and Members of the American Psychological Association:*

The annual meeting of the American Documentation Institute was held in Washington, D.C., Thursday, January 30, 1941. During 1940 the Institute followed the policies of previous years with success and operated within its financial resources. The use of Biblionfilm Service has increased, both for copying and for auxiliary publication. There was a 50% increase in the microfilming of complete sets of out-of-print scientific journals. The Institute has coöperated in defense efforts and especially in assisting war research work. Owing to war conditions, great difficulty has been encountered in the receipt of foreign technical journals. The Institute also coöperated in a W.P.A. project for the translation of foreign scientific articles which are being microfilmed as they are translated. The microfilming of material in Japanese scientific journals, especially in medicine, is being carried forward. Through the activities of the Institute the objective of "one big library" through which microfilm orders can be exchanged between libraries is being achieved.

Information concerning the Institute and its services can be obtained by addressing the Secretary of the American Documentation Institute, in care of Science Service, 2101 Constitution Avenue, Washington, D.C.

Respectfully submitted,  
JOHN E. ANDERSON

REPORT OF THE DELEGATES OF THE AMERICAN PSYCHOLOGICAL  
ASSOCIATION TO THE INTER-SOCIETY COLOR COUNCIL

*To the Council of Directors and Members of the American Psychological Association:*

The Tenth Annual Meeting of the I.S.C.C. was held in Washington on March 4 and 5, 1941. A technical program was presented jointly with the American Society for Testing Materials, the subject of which was: "Color—Its Specifications and Use in Evaluating the Appearance of Materials." For the popular session the I.S.C.C. and the A.S.T.M. were joined by the Illuminating Engineering Society and the Washington Colorists to watch

a series of demonstrations on "Trends in Color Photography," "Paint Styling," and "Exploring the Magic World of Color." The popular session was attended by 558 members of the various societies.

The Secretary of the I.S.C.C. issued the following résumé of the activities of the Council up to the time of its Tenth Annual Meeting:

The last year has developed a more active interest on the part of the membership than ever before. This has been made apparent through an increased number of technical sessions, projects, committee meetings, News Letters, and society and association memberships.

A symposium on "Spectrophotometry in the Pulp and Paper Industry" was jointly sponsored with the Technical Association of the Pulp and Paper Industry, at New York in February of last year.

Another symposium, on "Color," was jointly sponsored with the Illuminating Engineering Society, at Spring Lake, New Jersey, in September.

The value and interest attached to these programs jointly sponsored by the Council and its member-bodies is considerable. The papers from the two above-mentioned symposiums have been published in full in the journals of the respective societies and have also been made available in bound form to the Council's members and delegates.

The I.S.C.C.-N.B.S. Method of Designating Colors, which was one of the Council's projects, has been extended to the colors of objects viewed by transmitted light. In this extended form it is rapidly being introduced into the chemical and botanical monographs of the National Formulary and the U. S. Pharmacopoeia. The applicability of the method to uses other than the description of drugs and chemicals has been studied by several subcommittees. That the method is unsuited to color description in ophthalmology has been reported. Investigation is revealing the fields to which the method applies. There has been an indication that it may probably be extended to the designation of colors quite generally. The method has been described before several member-bodies and has been adopted for the presentation of textile color data by Committee D-13 of the American Society for Testing Materials and by the American Association of Textile Chemists and Colorists. Furthermore, the U. S. Department of Agriculture has incorporated the use of certain of these designations in a bulletin on soil colors, now in press, which will include representations in color for all names in the soil color range. This color chart has been made possible by the successful work of the Committee on Obtaining Central Notations of the I.S.C.C.-N.B.S. Colors.

During the past year much time has been devoted to the study of possible alterations in the Council's policies and in its Articles of Organization and Procedure, so as to insure continuance of the cordial relations between the Council and its member-bodies. The newly formed Committee on Public Relations is expected to be of assistance in this regard.

The highlight of the Council's Committee work during the past year has been the rapid development of a test for color aptitude. The importance of this test for national defense has been recognized both by the Navy and War Departments, who have appointed representatives on this Committee to assist in this special project.

An important aim of the Council is to coordinate the color work of its member-bodies, and along this line two programs have been arranged for the immediate future: a color symposium to be jointly sponsored by the Council and the American Society for Testing Materials, to be held in Washington, D. C., early in March, and a program of papers to be given in Baltimore the latter part of March that will be jointly sponsored by the Council and the American Ceramic Society. The members of the Council are invited to attend these meetings.

The Council is honored to announce both the Federation of Paint and Varnish

Production Clubs and the American Artists Professional League as new member-bodies. It is quite fitting that a national association of artists, as well as a national group interested in technical problems of producing paint products, should become interested in the affairs of the Council, for the Council deals with color problems in art, as well as in science and industry.

During the coming year the Council expects to pursue its work of gathering and correlating color-descriptive terms that have been adopted as standard by, or have come into general use in, the member-bodies.

The Council furthermore invites constructive suggestions from the societies and associations that compose its membership as to ways in which it can most beneficially fulfill its function of stimulating and coördinating activities that will lead to the further standardization, description, and specification of color, and to promote the practical application of these results to the color problems arising in science, art, and industry.

Inquiries regarding reprints of papers and methods referred to above should be addressed to: Dorothy Nickerson, Secretary, I.S.C.C., c/o Agricultural Marketing Service, Washington, D.C.

In addition to the work mentioned in the Secretary's report, the progress on the development of a Color Aptitude Test will be of interest to members of the A.P.A. Standardization of a preliminary form of the test has progressed to a point where it has been possible to prepare a revised version which will probably be the permanent form of the test. This version will be ready early in September and its final standardization will be presented at the next annual meeting in February.

In all of the activities of the Council, a large proportion of the A.P.A. delegation has taken active part. S. M. Newhall is serving on the Executive Committee as a counselor; M. J. Zigler represents the A.P.A. on the staff of the News Letter and on the Committee on Color Terms; F. L. Dimmick is Chairman of the Problems Committee. All members of the delegation have contributed materially to the standardization of the Color Aptitude Test.

#### Recommendation:

Your delegation to the Inter-Society Color Council recommends: (1) that the A.P.A. continue its membership in the Inter-Society Council, and (2) that the present delegation be re-elected.

Respectfully submitted,

FORREST L. DIMMICK, *Chairman*  
SIDNEY M. NEWHALL, *Voting Delegate*  
MICHAEL J. ZIGLER, *Voting Delegate*  
FRANK A. GELDARD  
CLARENCE H. GRAHAM  
JOY P. GUILFORD  
HARRY HELSON  
THEODORE F. KARWOSKI  
ELSIE MURRAY  
LOUISE L. SLOAN



REPORT ON THE DIVISION OF ANTHROPOLOGY AND PSYCHOLOGY  
OF THE NATIONAL RESEARCH COUNCIL

*To the Council of Directors and Members of the American Psychological Association:*

During the past year the activities of the Division of Anthropology and Psychology, National Research Council, have inevitably reflected the nation-wide preoccupation with the European war. The energies of the executive membership of the Division, as well as of many special conferences and committees, have been devoted to the "Defense Program." Every effort is being made to meet the impact of this gigantic program upon the professional life of our membership and to center within this Division all psychological work relating to the political and military policies of the federal government. It will be recalled that the National Research Council, of which the Division of Anthropology and Psychology is one segment, was established in 1916 during the World War upon request of the Chief Executive as a means to organizing the scientific resources of the country. Being now 25 years old, the Division is far better equipped for effective action than it was during the previous war. Inasmuch as most information about the activities of the Division is circulated with the imprint, "Not for publication," the present report will be both formal and brief. The principal activities of the year which has elapsed since our previous meeting may be summarized under five heads.

(1) Just a few weeks prior to the meeting at State College, on August 10, 1940, a group of psychologists (including representatives of the six national psychological societies, together with other qualified participants) met in Washington to consider the relation of psychology to the whole federal program. From this conference issued two major recommendations: (a) That an Emergency Committee in Psychology be constituted as an agency of the Division, to act as a clearinghouse between professional psychologists and the appropriate federal agencies and to facilitate the interchange of ideas and the design of useful projects. The Committee consists of representatives of the six national societies, together with suitable members-at-large. Two major subcommittees have been added: on Perceptual Problems, S. W. Fernberger, Chairman; and on Learning and Training, M. R. Trabue, Chairman. Acting as Editor of Bibliography, Carroll C. Pratt supervised the compilation of "Military Psychology," as published in the *Psychological Bulletin*, June, 1941. Under the Chairmanship of Karl M. Dallenbach, this Committee has proved its value as an instrumentality by which psychological effort can be focalized and effectuated. (b) That a conference be summoned to consider the Psychological Factors in Morale. The reasons for the conference were stated by its Chairman, Gordon W. Allport, in three propositions: that our country is entering a period of crisis, that the morale of the country is not what it should be, that psychologists ought to have something sensible to contribute. After considering the extent and nature of the territory bounded by the term *morale*, its governing principles, its important and promising areas for research, its practical problems in civilian life as well as in the armed services, the conference voted to recommend that its work be continued and amplified by a standing committee, under the leadership of

Drs. Allport and Yerkes. This permanent group has worked in close collaboration with the Committee for National Morale. One of its principal contributions has been the survey and bibliography entitled, "German Psychological Warfare."

(2) A year ago Dr. Garrett, in his report for the Division, referred to the inaugural work of the Committee on Selection and Training of Aircraft Pilots. Under the Chairmanship of Drs. Liddell and Dunlap, and with the active direction of Dr. Jenkins and others, this Committee has continued to make notable progress in several fields of research: selection and classification of aircraft personnel, criteria and standards of competence, methods of training and instruction, performance under stress and tension. It is gratifying to note the widespread commendation which this Committee has enjoyed from all who are acquainted with its work.

(3) The Committee on Classification of Military Personnel is, in the words of its Chairman, W. V. Bingham, "responsible for developing aids to correct classification of officers and men with respect to their abilities and skills, educational background, civilian and military experience, intellectual capacity, personal qualifications, special aptitudes, and indicated best Army usefulness." Various tests for achieving these ends are now in use at the reception centers. Plans have been made for training a limited number of qualified psychologists for the career of *military psychologist*.

(4) An interdivisional Committee on Problems of Neurotic Behavior (Walter R. Miles, Chairman), with its subcommittee on Personality Inventory (Carney Landis, Chairman), has concerned itself with the genesis, identification, and care of neurotic behavior as it appears in the armed forces.

(5) An Executive Order, dated June 28, 1941, establishes within the framework of the Office for Emergency Management an *Office of Scientific Research and Development*. It is believed that this newly created Office will require much aid from the several Divisions of the National Research Council.

While the above summary is far from complete, it is believed to touch the more important activities of the Division.

Respectfully submitted,

E. A. CULLER, *Vice-Chairman*

#### REPORT OF THE REPRESENTATIVE ON THE SOCIAL SCIENCE RESEARCH COUNCIL

*To the Council of Directors and Members of the American Psychological Association:*

The work of the Council continues under five main divisions: research personnel, research materials, research organization, research appraisal, and research planning. Of chief interest to this Association is the work of the Committee on Appraisal of Research and the Committee on Social Adjustment.

The Committee on Appraisal of Research has undertaken to examine the methods of social science as employed in the use of the personal document—diaries, autobiographies, etc. Among other methods of appraisal it is proposed to ask what differences would be expected from analysis of

the same materials by specialists representative of different social sciences or by individuals within particular sciences who have been exposed to different emphases in training. Dr. Gordon Allport is preparing a review of the use of the personal document in psychology.

The Committee on Social Adjustment is directing its initial inquiries toward the study of nature-nurture, predictive methods, and motivation. In the field of nature-nurture an important critical survey of recent research in twins and foster children has been published as a bulletin of the Council (Woodworth, R. S. Heredity and environment. *Soc. Sci. Res. Coun. Bull.*, No. 47, 1941). The Committee is sponsoring an exploratory study of foster children, under the direction of Dr. Barbara S. Burks, which, as planned, should develop into a comparative study of methods of procedure and their results. A subcommittee on predictive methods proposes to review methods of prediction in the four fields of social success, vocational adjustment, marital happiness, and criminal recidivism. A subcommittee on motivation in social adjustment is undertaking a critical review of ways by which psychoanalytic concepts might be experimentally verified.

Theodore R. Sarbin, of the University of Minnesota, has been appointed to a postdoctoral research training fellowship for 1941-1942.

The following psychologists received Grants-in-Aid of research for 1941-1942: Margaret W. Curti, Teachers College, Columbia University; Wayne Dennis, University of Virginia; Helen Block Lewis, Brooklyn College. Meredith P. Crawford, Vanderbilt University, received an award from the Committee for Southern Grants-in-Aid.

Respectfully submitted,

RICHARD M. ELLIOTT

#### REPORT OF THE TREASURER AND BUSINESS MANAGER OF PUBLICATIONS

*To the Council of Directors and Members of the American Psychological Association:*

I am transmitting herewith the audited accounts of the American Psychological Association and its publications for the year January 1, 1940, to December 31, 1940. Since this year also closes the fifth annual period since the accounts were collected into one system of bookkeeping, I am also appending a table which gives comparisons by division over the five-year period.

During the year 1940 there was an increase in the net worth amounting to \$5,797.20. Of this, \$754.99 is recorded interest on the savings accounts of the Association, some of which are reserved for special purposes.

The following detail will indicate the status of the various operations of the offices of Business Manager and Treasurer as of December 31, 1940:

The *Treasurer's Office* showed a surplus of \$2,435.58 for the year. The income, principally from dues and interest, was \$7,845.39, and the expense was \$5,409.21. These amounts agree very well with the estimates in the budget for the year, which were: income, \$7,319; expense, \$5,230.

The *Publications Office* was operated with a surplus of approximately

\$4,000. The *Abstracts* shows a comfortable margin of about \$1,550. This is the first year since 1936 that the *Abstracts'* income has exceeded expense. In the years 1937, 1938, and 1939 a total deficit of \$2,124.66 was accumulated, so that if we set this amount against the surplus for the year we find that there is still an amount of \$567.62 to be met during the current year. The sudden change from deficits to a surplus of \$1,500 results principally from increased receipts due to a larger membership roster, but also the expense in both the Editorial and Business Offices was reduced. It is estimated that between \$400 and \$500 of this decreased expense results from the fact that foreign abstracts no longer appear in the same numbers as they formerly did. This simply means that they will appear in future numbers which will appear in a reconstruction period. During the early part of the reconstruction, channels will have to be established with new abstractors, again calling for increased expense.

The *Bulletin* operated at a deficit of only \$99.28, although the production costs were almost \$6,000. The *Bulletin* has lost some \$500 in foreign subscriptions during the year. Were it not for economies effected in manufacture, the deficit would be much larger. It is felt that in 1941 the journal will show a surplus, but its accumulated deficit since 1936 is \$366.11. A change in printers at the end of 1940 also necessitated a reduction in the stock of back numbers carried. Gifts were made to libraries upon the receipt of a subscription which in all likelihood will be maintained. These premiums resulted in more than 100 new subscriptions to the *Bulletin*.

All of the other journals are affected by the club rate to members which just went into effect in 1940 at \$10.00. There were well over 300 such subscriptions. The largest proportion of this money went to the *Journal of Experimental Psychology*, reducing what would have been a large loss to a deficit of only \$216.62. Changes in the format, introduced in 1941, are expected to convert this deficit into a surplus with the next report. Even so, the accumulated deficit over a period of five years is \$3,010.08. A period of several good years will have to be experienced before the journal will be self-supporting from the long-range point of view.

For many years the deficits of the *Journal of Experimental Psychology* and the *Psychological Bulletin* have been absorbed by the *Psychological Review*. Correspondingly, this year, its surplus has been even larger (\$1,291.05) than in previous years, due to the club rates.

The *Journal of Abnormal and Social Psychology* has also shared in the club rate benefits. In addition, there have been changes in the format which resulted in savings, so that it may be expected to show surpluses in the future. The surpluses from this journal, by the original deed of gift, can only be used for its own promotion.

The *Psychological Monographs* always shows a small surplus because it is handled on a commission basis. The actual capital for its operation is supplied by the authors.

The details of the operation of the various divisions is shown by the accompanying audited schedule.

Respectfully submitted,

WILLARD L. VALENTINE, *Treasurer and Business Manager*

## FIVE-YEAR SURVEY OF PUBLICATIONS OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, TOGETHER WITH THE TREASURER'S OFFICE REPORT

Treasurer's Office			Abstracts		
Year	Surplus	No. Associates and Members	Surplus	Deficit	Circulation
1936	\$4,789.93	1,987	9.68		2,448
1937	1,320.36	2,138		\$324.09	2,644
1938	2,567.90	2,318		654.01	2,701
1939	1,379.33	2,527		1,146.56	2,776
1940	2,435.58	2,739	\$1,557.94		3,146
Total surplus \$12,493.10			\$1,567.60		
Total deficit (loss)				\$2,124.66	

	<i>Bulletin</i>			<i>Experimental</i>		
<b>Year</b>	<b>Surplus</b>	<b>Deficit</b>	<b>Circulation</b>	<b>Surplus</b>	<b>Deficit</b>	<b>Circulation</b>
1936	\$58.69		629		\$438.08	501
1937		\$433.18	623		283.17	444
1938	358.51		624		1,154.06	447
1939		230.85	2,592		918.15	411
1940	99.28		2,977		216.62	755
Total surplus	\$516.48					
Total loss		\$664.03			\$3,010.08	

Year	Review			Abnormal		
	Surplus	Deficit	Circulation	Surplus	Deficit	Circulation
1936	\$1,023.56		832	\$2,967.24		609
1937	898.76		800		\$115.17	644
1938	733.12		808	148.96		607
1939	749.02		722	599.85		540
1940	1,291.05		1,041	706.92		922
Total surplus	\$4,695.51			\$4,422.97		
Total loss					\$115.17	

CONDENSED REPORT OF EXAMINATION  
AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

YEAR ENDED DECEMBER 31, 1940

January 21, 1941

## Auditor's Certificate

American Psychological Association, Inc.:

We have examined the balance sheet of American Psychological Association, Inc., as of December 31, 1940, and the statements of income and expense and net worth for the year then ended and, without making a detailed audit of the transactions, have examined or tested accounting records of the Association and other supporting evidence, by methods and to the extent outlined in this report.



*Condensed Comparative Balance Sheets*

A summary of the balance sheets at December 31, 1940, and December 31, 1939, follows:

Assets	Dec. 31, 1940	Dec. 31, 1939	Increase Decrease*
Cash.....	\$76,932.18	\$66,018.39	\$10,913.79
Accounts receivable—net.....	1,220.56	1,337.35	116.79*
Inventories:			
Valuation placed on stock of back numbers of publications, etc.....	1.00	1.00	
	<u>\$78,153.74</u>	<u>\$67,356.74</u>	<u>\$10,797.00</u>
Liabilities and Net Worth			
Accounts payable.....	\$1,904.98	\$1,147.55	\$757.43
Deferred income:			
Unexpired subscriptions.....	20,275.99	16,715.67	3,560.32
Reserved for special purposes.....	6,891.91	6,209.86	682.05
Net worth.....	49,080.86	43,283.66	5,797.20
	<u>\$78,153.74</u>	<u>\$67,356.74</u>	<u>\$10,797.00</u>

The increase of \$5,797.20 in the net worth of the Association is accounted for in an accompanying schedule.

*Scope of Examination and Other Comments*

The following comments relate to the assets and liabilities set forth in the accompanying balance sheet and to the scope of our examination:

Cash on demand deposit and in savings accounts, as shown by the balance sheet, was reconciled with the amounts reported to us by the depository banks, and cash in office funds was confirmed by direct correspondence with the custodians thereof. The record of cash transactions was examined to the extent that the aggregate of recorded receipts for the year was traced to bank deposits as shown by bank statements on file, and the recorded disbursements through the bank account for the same period were found to be supported by canceled bank checks as well as by invoices, receipts, or other data on file.

The amount of accounts receivable for sales, reprints, etc. was in agreement with the total of a listing of the individual accounts. We did not correspond with the debtors. The Association follows the policy of recording dues of Members and Associates when they are collected; therefore no asset amount is stated in the balance sheet for these receivables.

Inventories of back numbers, publications, etc. carried on the balance sheet at \$1.00 were summarized for us and are shown in an accompanying schedule.

All ascertained liabilities of the Association at December 31, 1940, have been provided for in the accompanying balance sheet. The liability to authors of psychological monographs was evidenced by listing the individual accounts, but we did not correspond with the authors for further confirmation.

Deferred income represents the unexpired portion of subscriptions to the various publications of the Association at December 31, 1940. We made test-checks of the computations of the Association with respect to amounts deferred to cover the unexpired subscriptions.

Information submitted to us indicated that certain funds reserved for specific purposes were not to be considered a part of the general funds of the Association. Cash in the amount of \$3,004.99 carried in a special savings account in the People's Savings Bank in Providence represented the unexpended balance of subscriptions received from members for the entertainment of foreign delegates to an international meeting in 1932, plus accumulated interest thereon to December 31, 1940. Under the terms of a gift whereby the Association acquired the *Journal of Abnormal and Social Psychology*, any surplus funds arising from its publication are to be used solely for purposes of that journal. The amount of such surplus funds at December 31, 1940, was determined as follows:

Balance January 1, 1940 .....	\$3,180.00
Net income from operations for the year .....	706.92
	<hr/>
Balance at December 31, 1940 .....	<u>\$3,886.92</u>

The deficit in the fund for Aid to Displaced Foreign Psychologists is summarized in the following:

Balance January 1, 1940 .....	\$84.07
Income (including \$200 contributed by Treasurer's Office— "committee expense") .....	225.00
	<hr/>
	\$309.07
Disbursements .....	325.01
	<hr/>
Balance December 31, 1940—Deficit .....	<u>\$15.94</u>

It is anticipated that the deficit will be offset against appropriations in the coming year.

ERNST & ERNST

*Certified Public Accountants*

BALANCE SHEET  
AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.  
December 31, 1940

## ASSETS

<i>Cash</i>		
Demand deposit.....	\$24,024.09	
Savings accounts (\$6,891.91 reserved for special purposes).....	52,868.09	
Office cash funds.....	40.00	\$76,932.18
<i>Accounts Receivable</i>		
For sales, reprints, etc.....	\$1,429.09	
Less reserve.....	675.63	
From authors for printing costs, etc.....		\$753.46
<i>Inventories</i>		
Nominal value placed on stock of back numbers of publications.....		467.10
		1.00
		<u>\$78,153.74</u>

## LIABILITIES AND NET WORTH

<i>Accounts Payable</i>		
For printing costs, etc.....	\$959.31	
To authors of Psychological Monographs.....	945.67	
		\$ 1,904.98
<i>Deferred Income</i>		
Unexpired subscriptions to:		
Psychological Abstracts.....	\$9,731.07	
Journal of Experimental Psychology.....	1,672.84	
Psychological Bulletin.....	3,419.19	
Psychological Review.....	1,921.72	
Journal of Abnormal and Social Psychology.....	2,623.37	
Psychological Monographs.....	907.80	
		20,275.99
<i>Reserved for Special Purposes</i>		
Surplus funds of Journal of Abnormal and Social Psychology.....	\$3,886.92	
Unexpended balance of funds collected for entertainment of foreign delegates to international meeting in 1932, plus interest earned thereon.....	3,004.99	
		6,891.91
<i>Net Worth</i>		
Balance at December 31, 1940.....		49,080.86
		<u>\$78,153.74</u>

NET WORTH  
AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.  
Year Ended December 31, 1940

Balance January 1, 1940.....		\$43,283.66
Net income for the year—as shown by the accompanying statement of income and expense.....	\$6,479.25	
Add net expense of Committee to Aid Displaced Foreign Psychologists.....	100.01	
	<u>\$6,579.26</u>	
Less portion of net income reserved for special purposes:		
Net income of Journal of Abnormal Psychology.....	\$706.92	
Interest on funds collected for the entertainment of foreign delegates in 1932.....	766.12	5,813.14
		<u>\$49,096.80</u>
Deduct deficit in fund for Aid to Displaced Foreign Psychologists.....		15.94
		<u>\$49,080.86</u>

INCOME AND EXPENSES  
AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.  
December 31, 1940

INCOME	Total	Treasurer's Office	Publications
Dues.....	\$6,821.86	\$6,821.86	\$12,418.01
Subscriptions paid by Treasurer's Office.....	12,418.01		3,579.03
Special combination subscriptions.....	3,579.03		16,910.58
Other subscriptions.....	16,910.58		6,637.63
Reprints and commissions.....	6,637.63		2,410.23
Sale of single copies and back numbers.....	2,410.23		33.96
Interest.....	754.99	721.03	214.79
Advertisements.....	214.79		
Committee on Aid to Displaced Foreign Psychologists.....	225.00	225.00	
Miscellaneous.....	332.26	77.50	254.76
<b>TOTAL INCOME.....</b>	<b>\$50,304.38</b>	<b>\$7,845.39</b>	<b>\$42,458.99</b>

## EXPENSE

Stipends to editors and officers.....	\$5,655.42	\$1,900.00	\$ 3,755.42
Compensation to employees.....	4,606.25		4,606.25
Abstractors and translators.....	1,001.12		1,001.12
Payments to authors.....	838.21		838.21
Printing costs.....	24,470.63	807.94	23,662.69
Reprints.....	2,692.64	21.00	2,671.64
Office expense.....	670.95	381.85	289.10
Miscellaneous.....	1,535.45	113.03	1,422.42
Yearbook.....	955.40	955.40	
Provision for doubtful accounts.....	41.17		41.17
Professional services.....	435.00	435.00	
Annual meeting, and committee expense.....	705.47	705.47(A)	
Equipment purchased.....	217.42	90.12	127.30
	<u>\$43,825.13</u>	<u>\$5,409.81</u>	<u>\$38,415.32</u>
NET INCOME-EXPENSE.....	<u>\$6,479.25</u>	<u>\$2,435.58</u>	<u>\$4,043.67</u>

(A) Includes \$325.01 expense of Committee on Displaced Foreign Psychologists, of which \$200.00 appropriated.

## NET INCOME-EXPENSE BY DIVISIONS\*

Treasurer's Office.....	\$2,435.58
Journal of Abnormal and Social Psychology.....	706.92
Psychological Abstracts.....	1,557.94
Psychological Review.....	1,291.05
Psychological Bulletin.....	99.28*
Journal of Experimental Psychology.....	216.62*
Psychological Monographs.....	803.66
	<u>\$6,479.25</u>

\* Indicates negative amount.



## BUDGET FOR 1942

## TREASURER'S OFFICE

## AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

*Estimated Income*

Dues.....	\$7,400.00
Subscriptions:	
Psychological Abstracts.....	12,400.00
Psychological Bulletin.....	2,325.00
Interest on savings.....	800.00
Sale of Yearbooks and Programs.....	100.00
Total.....	\$23,025.00

*Estimated Expenditures*

Subscriptions:	
Psychological Abstracts.....	\$12,400.00
Psychological Bulletin.....	2,325.00
Office supplies and expense.....	500.00
Telephone and telegraph.....	300.00
Printing.....	500.00
Proceedings.....	600.00
Yearbook.....	1,500.00
Treasurer's bond.....	100.00
Secretary's stipend.....	2,000.00
Treasurer's stipend.....	400.00
Auditing accounts.....	400.00
Incidentals, Annual Meeting.....	300.00
Apparatus exhibit.....	50.00
Committee on Animal Experimentation.....	25.00
Inter-Society Color Council.....	25.00
Committee on Displaced Foreign Psychologists.....	200.00
Committee on Preparation of Examination Questions.....	100.00
Program Committee.....	50.00
Committee on Extension of Functions of the Secretary's Office.....	250.00
Total.....	\$22,025.00

REPORT OF THE COMMITTEE ON PSYCHOLOGY  
AND THE PUBLIC SERVICE

*To the Council of Directors and Members of the American Psychological Association:*

Psychologists are playing their part in our government's defense efforts. Their part is an important one. It is they who have professional knowledge of such crucial matters as morale—both military and civilian. It is they who possess the techniques for assuring that every man is placed in the work for which he is best suited, so that the national effort may result in the maximum attainment. It is they who know, or who know how to find out, what must be done to cushion the shocks resulting from the dislocation and readjustment of so many lives, attendant upon the national emergency. Never before has there been greater need for their contributions and never before has greater use been made of their knowledge and wisdom in the public service. Even a brief summary of the work now being done will show how important a contribution psychology

is making and the necessity of the functions which psychologists, even though classified under different titles, are performing.

The rapid expansion of our Army has brought with it new problems of a psychological nature. To investigate these problems a considerable number of psychologists have been commissioned in the armed service. Working with them are civilian experts employed by the government and also various coöperating committees of the American Psychological Association and of the National Research Council. Commissioned personnel are stationed at Naval Training Stations and Aviation Bases, working with Psychiatric Boards and on examination problems of personnel selection.

Psychologists are studying why soldiers are discharged as unfit, in an effort to determine minimum standards of intelligence and literacy below which a recruit can hardly be expected to become a useful soldier.

A test of emotional stability has been constructed, and the cases of discharged men have been investigated in order to determine the weight to be given the trends measured by the items on the test.

General tests developed by psychologists for the classification of Army personnel include a general classification test, a mechanical aptitude test, a clerical aptitude test, and a nonlanguage examination. Norms have been determined and studies of validity carried on, while both alternate and new forms are being developed. This work has been based on work done by psychologists and test technicians, both in and out of the government service, in the past three decades.

Psychologists are working on both performance and aptitude tests for occupational specialties in the Army. This work is paralleled by the development of tests for inspectors for the Civil Aeronautics Authority and of tests constructed by psychologists employed in the Federal Security Agency for use in connection with the classification and selection of skilled workers.

An interest inventory is being developed for possible use in the selection of instructors and noncommissioned officers in the Air Corps, while some of the interest inventories previously developed by psychologists are being validated for use in the Navy.

Efficiency rating of Army officers and pilots is being examined with a view to improving both the forms and the reliability of the forms now being used.

Prediction of success as officer or as pilot is being studied by various groups of psychologists. The use of a weighted combination of biographical items has been found to yield a significantly high prediction of success or failure in air courses.

Psychomotor tests have been administered to naval aviation cadets and civil aeronautics students and have been evaluated as to validity. Standard tests for physical fitness have been analyzed by means of statistical procedures. Research is being done on personality inventory tests, tests of visual perception, and tests of ability to withstand pain, cold, and fatigue.

Criteria of pilot competence, improvement of verbal instruction, study of the use of the eyes and of muscles during flight have been made possible by the use of new special devices constructed by psychologists.

There has also been an increase in the volume of work done by psychologists employed in the civilian branches of the government.

In the Social Security Board almost a hundred persons with psychological training, including those with titles such as occupational analyst, selection techniques analyst, technical representative, or statistician are engaged in standardization of aptitude and trade tests, in job analysis, in study of occupations suitable for women in the defense program, and in technical assistance to the State Employment Services in the proper application of occupational information and testing techniques. Here also work is being done on a study of observable traits with a view to developing a rating device for use in the employment interview.

In order to meet the suddenly enlarged need for qualified personnel there has been a considerable increase in the staff of the central personnel agency—that is, the Civil Service Commission—and in the personnel divisions of the various departments.

The pouring in of tens of thousands of new workers to the nation's capital and the removal of units of the government to other cities in order to make room for the expanded defense activities have placed new burdens on the psychologists engaged in personnel work.

The role of the psychologist cannot always be sharply differentiated from that of the economist, the social scientist, the administrator. For example, in the Division of Program Surveys (Bureau of Agricultural Economics) in the Department of Agriculture, the functions of psychologist and economist are completely fused. This division undertakes to secure the necessary information for making administrative decisions which correspond to the desires of the people. It is now possible for the Farm Security Administration, for example, to learn such things as how the farmers in a given locality want the tenant-purchase plan operated. The "sampling" method is used in obtaining this information; and for securing accurate results the method must be used, of course, carefully and scientifically, with rigorous adherence to checks and safeguards, making sure that the sample is a true cross-section, that interviewing procedures are sound, that accurate and objective analyses are made. In this division the psychologist could function as administrator, as interviewer, as social science analyst, as statistician. In point of fact, there are in the division four psychologists, and of these four only one is classified as psychologist.

In the entire Department of Agriculture there are employed altogether six psychologists whose work falls actually under this rubric. Four of these are "social psychologists" and one "psychologist," all with the Bureau of Agricultural Economics, and one is "psychologist" with the Forest Service. This position in the Forest Service carries a particularly interesting and unique responsibility—to study the attitudes of people toward man-made forest fires, with the aim of improving educational and other methods of fire control.

Aside from those classified as psychologists, there are approximately 50 others with psychological training in the Department of Agriculture, among them several with Master's and Doctor's degrees in psychology. These people are working on problems of immense practical import for the effective administration of the department.

The potential contributions of psychology to the defense of democracy

and to the effectuation of democratic procedures at all times are only now becoming apparent even to many psychologists.

The major source of recent federal Civil Service recruitment for these psychologists has been from the registers established from the junior examination assistant, junior personnel technician, and psychologist examinations.

The junior examination assistant required 20 semester hours in psychology, including 3 credits in educational measurements and 3 in educational statistics. Seventy-one persons were appointed from this register, which was established in 1939. This examination was superseded by the recent personnel technician test.

The junior personnel technician examination likewise required 20 semester hours in psychology, including 3 credits in group tests and measurements and 3 in statistics. Seven appointments have been made to date.

Sixteen persons have been appointed from the registers established for clinical and child psychologist.

Two new instrumentalities have supplemented the use of examinations and registers in the selection of psychological personnel. One is the National Roster of Scientific and Specialized Personnel with which members of this society are well acquainted. The other is the Interdepartmental Placement Service.

The National Roster has been used to furnish lists of psychologists subject to selective service, lists of clinical psychologists for both the Army and Navy, and lists of persons skilled in broadcasting and propaganda analysis.

The Interdepartmental Placement Service is administered by the United States Civil Service Commission as a means of listing civilian personnel employed in the government in order readily to find qualified persons when positions are to be filled by transfer or promotion. Persons employed in the federal Civil Service have been classified on the basis of their positions or their education and experience, and details from informational questionnaires have been entered on punch cards.

A recent tabulation of these cards showed 443 persons classified in the field of psychology, 193 of whom have had no previous experience in applied psychology and are not presently employed in psychological positions. This group is not fully representative, since it does not include persons employed in such fields as job analysis, administration, and specialized branches of personnel work.

Analysis of the education of the people of the field of psychology reveals 61 with the doctorate degree. Ten of these have majors not in psychology but in education, and three have degrees in other subjects. The median salary of those with the doctorate degree is \$3,300 per annum.

One hundred and forty-seven have Master's degrees. Their median salary is \$2,000. This includes a large number working in the Works Project Administration, the National Youth Administration, and, as temporaries, in the Bureau of the Census. Exclusive of this group, the median salaries of Doctors and Masters are approximately \$3,500 and \$2,200, respectively.

An examination of the agencies in which these psychologists are em-

ployed shows a considerable group in the Departments of Agriculture, Justice, and Labor, the Civil Service Commission, and the three agencies mentioned above. A very large group is employed by the Federal Security Agency. Exclusive of the Social Security Board, whose work has been discussed above, staffs of psychologists are employed in the Public Health Service, National Youth Administration, and Office of Education; and several psychologists are employed at St. Elizabeth's Hospital, one of the largest psychiatric hospitals in the country.

The work of psychologists for the federal government has increased markedly, and it is likely to increase further as new techniques and devices originated by psychologists are brought into use to promote defense.

Your Committee has taken steps to secure a coordinated set of recruitment prerequisites for positions involving training or experience in personnel psychology for the use of federal, state, and municipal Civil Service Commissions. A number of letters have been sent to such Commissions asking for their cooperation in developing these uniform specifications. They were asked to express their interest in such a program and to indicate whether, as a first step, they would accept, for comparable positions in their agencies, the following recruitment specifications developed for the three lowest grades of personnel technician (tests and measurements) in one government service. They were asked further to indicate what changes they would make if they could not accept them as they are, so that a composite set of prerequisites could be drawn up and submitted to them for agreement. Twenty replies were received. The majority state that they would be interested to cooperate in developing uniform specifications and that they would use them as drafted or with certain adaptations to conform to their regulations.

Respectfully submitted,

R. LIKERT

W. S. MILES

W. V. BINGHAM

H. E. BURTT

L. J. O'ROURKE, *Chairman*



## BOOK REVIEWS

KÖHLER, W. *Dynamics in psychology*. New York: Liveright, 1940. Pp. 158.

The present small volume contains a somewhat modified version of a series of lectures, delivered at the University of Virginia in 1938, in which Köhler attempts to give his conception of the nature and role of theory in psychological research. The reader already acquainted with the writings of Köhler and his Gestalt colleagues will probably be a little disappointed at the more or less familiar pattern of treating a few perceptual and memory problems in terms of the isomorphic assumption and the so-called field concepts. This disappointment was heightened in the case of the present reviewer because of the expectations which Köhler aroused by his apparent recognition and discussion early in the book of the fact that psychological field theory had not in the past ever gone beyond a purely programmatic stage:

On the other hand the psychological field theory, it seems to me, is not yet in a satisfactory condition. It still has grave defects in its application both to perception and to other parts of psychology. Its principal short-comings are a certain vagueness and a lack of well-established dynamic principles according to which events in given fields are supposed to be interrelated. Nor can we be surprised by this situation so long as we make no definite assumptions about the medium to which the theory is to be applied, no concrete hypotheses about the nature of the interrelated facts, and none about the actual forces which cause their interrelations (p. 56).

This surprising indictment of field theory by Köhler led the reviewer to hope that at last something more concrete would be offered in the way of a definite and testable theory.

The book contains three chapters in all. Chapter I, entitled "The Ways of Psychology," is not particularly important for the professional psychologist. He makes a distinction reminiscent of James's division of knowledge into two types—knowledge by acquaintance and knowledge about—and brings out clearly, especially for his nonprofessional audience, the fact that while psychology, unlike physics, has no new discoveries of the kind represented by the phenomena of X-rays and electric currents, it can and does discover 'facts of functional dependency' which lie outside the range of direct awareness. Much of the chapter is taken up with discussion of three instances in which psychologists have been able to discover by indirect procedures some of the hidden factors or conditions determining psychological experiences.

The second (and longest) chapter of the book, "The Field of a Percept," opens with a discussion of the general nature of theory in psychology. Köhler flatly rejects the viewpoint that a systematic theory of mental facts can be formulated in terms of purely psychological concepts. The psychologist has to go beyond the discovery of empirical rules (laws) indi-

cating relations or functional dependencies between observed (psychological) events. The particular concepts that Köhler proposes to make the basis of a systematic psychological theory are those of biology. Explanation of the psychological events or laws, he believes, is to be found in the more complete and continuous context of the isomorphic brain processes. This wider system of knowledge can then be employed as a formal theoretical model for psychology, providing for the deduction of further empirical relationships within the psychological realm which can be tested by appropriate experimentation.

As a concrete instance of such a theory in psychology, Köhler attempts to show how certain phenomena in the field of perception may be explained in terms of hypotheses as to the nature of the brain processes underlying them. The facts of perception themselves set the requirement as to the general form any such theory of perception must take. It must be a field theory. By 'field theory' Köhler has reference to the intuitive notion, sometimes held by physicists, of systems in which the events or variables are considered as being located in a continuous medium, in which "the events in one part of this medium influence the events in other regions in a way that depends directly on the properties of both in relation to each other."

This ever-present emphasis of the field concept by the Gestalters is greatly in need of critical examination. Gestalt psychologists have repeatedly implied that in employing the field concept they are following in the lead of modern physical theory. Unfortunately, this has led to a certain amount of misunderstanding on the part of some Gestalt enthusiasts (cf. Hartmann), who have jumped to the conclusion that Gestalt theories, being field conceptions, are thus superior to other psychological theories in the same way that such modern field conceptions in physics as Einstein's gravitational theory are superior to the older Newtonian type of mechanical theory. Space limitations permit pointing out here only that the Gestalt field theories are a very far cry from the type of field theory that the modern physicist actually employs. Whereas the latter's chief theoretical value is the particular form of the mathematical equations employed, *i.e.* systems of partial differential equations with respect to both time and space, the Gestalt field theories possess only the properties of the intuitive and more or less anthropomorphic models that physical theorists employ to aid their 'understanding' of the mathematical theory.

Köhler is led to his general assumption of the field conception on the basis of the well-known perceptual phenomena of stroboscopic movement and grouping or organization of objects in visual space. Then, in the light of perceptual behavior to 'reversible figures' (Rubin), he attempts to formulate more specific hypotheses as to the nature of the neural events underlying simple percept processes. The hypothesis he arrives at is that percept processes are associated with fields of electric currents in the nervous system and certain further special assumptions about the electromotive forces which drive these currents through the tissue. The basis of selection of this particular hypothesis seems to have been the formal parallelism that electrolytical conduction exhibits to certain phenomena in perception—namely, that electrolytical currents alter the medium in

which they occur just as percept processes seem to alter their medium, *e.g.* the visual field. By means of this theory, Köhler shows how it is possible to explain not only the behavior of reversible figures, the psychological facts on which the theory was originally formulated, but also to extend it to the results of a series of experimental observations on the effects of prolonged inspection in other types of simple perceptual situations.

In the final chapter, "Retention and Recall," Köhler attempts to show the similarity between the principles operating in perceptual organization and recognition or recall. Similarity, for example, seems to play the same functional (*i.e.* selective) role in recall that it does in the formation of perceptual units. Accordingly, the assumption is made that the same field action is operating in recall as was postulated in perception. Memory traces, like percept correlates, are surrounded by fields and hence interact with other traces and percepts through this medium. Some of the implications of the general field theory for spontaneous recall and certain aspects of retroactive inhibition are then examined in the light of experimental evidence.

To the reviewer, this portion of the book is far less impressive and convincing than the treatment of the simple perceptual processes. It is not a particularly difficult task to point out parallels which indicate the operation of similar principles in different psychological processes. Certainly there should be nothing surprising about this. Nor can one be impressed by such nebulous accounts of the reversible nature of retroactive inhibition under certain conditions of temporal arrangement of original learning, interpolated learning, and recall testing in terms of a trace recovering its specific, individual, functional capacity by gradually emerging from the "cloud of current" which has temporarily interfered with its accessibility. Unfortunately, Köhler does not make any attempt to indicate anywhere the nature of the wider "structure of further facts and functional principles" that he proposes to employ as a theoretical system for ordering these particular psychological facts. But even the existence of a system of knowledge about electrolytical conduction would still leave two formidable hurdles to be cleared: (1) the discovery of the specific method of applying it to the processes of the nervous system and (2) the coördination of these physiological constructs to the psychological (behavioral) variables.

Undoubtedly Köhler's discussion of the nature of psychological theory is an important and timely contribution to the methodological discussion in psychology. While this reviewer is in general agreement with Köhler's formulation of theoretical procedure in psychology, there are certain points at which sharp issue must be taken. One, in the opinion of the reviewer, is that there is no need, as Köhler seems to imply, for a brain theory to possess 'the same functional characteristics' as the system of psychological facts it is supposed to explain. A theory need not isomorphically mirror the facts that it is proposed to explain. The dynamical theory of gases, with its mechanical structure of colliding elastic bodies, is anything but isomorphic, in Köhler's sense of this term, with the behavior of gases.

A second point is the seeming insistence on the physiological (physical) nature of explanatory constructs for psychology—a position which Köhler shares with another recent writer on this problem, Pratt. In the opinion of the reviewer, there is considerable reason to doubt the existence of a body of knowledge concerning the nature of brain processes sufficiently systematic (*i.e.* lawful) to provide an extensive theoretical integration of psychological (behavioral) phenomena. Too often, however, such theories have no basis whatever in physiological facts, but employ hypothetical physiological constructs themselves derived from the psychological events they purport to explain. Where such purely hypothetical constructs are subsequently verified by means of independent physiological observation, they constitute, of course, a worth-while extension of our knowledge. It is also conceivable that a system of empirical neurophysiological constructs and laws might provide a basis for a broader theoretical interpretation of psychological facts. On the other hand, several psychologists (Tolman, Hull, etc.) have demonstrated the fruitfulness for psychological theory of constructs for which no physiological referents whatever have been indicated. The essential requirement that such constructs must fulfill in order to be anything other than a new term and hence merely tautological is that they be defined not in terms of the behavior properties to be explained, but as a function of the independent variables, the stimulus conditions and experimental operations, or in terms of other hypothetical constructs which themselves are defined in this manner.

One further matter requires at least some brief comment. In his arguments in the opening part of the last chapter in support of the value of biological theories in psychology, Köhler brings up the old refrain about the '*mechanistic*' nature of the neurological conceptions of the stimulus-response psychologists and the "senselessness" and "unreasonableness" of their theories. From the point of view of most current stimulus-response theories, it might be replied that such statements attack straw men and are therefore quite irrelevant, simply because these theories do not have any physiological reference whatever. It happens, however, that the same attitude is usually taken by Köhler and his supporters towards S-R theories, whether physiological in nature or not. It is not possible to determine for sure just what Köhler means by such condemnations, because the arguments are almost purely verbal and seem to represent an emotional conviction, as the following example bears ready witness: "I dislike doctrines which ignore obvious experiences and also threaten to destroy the very fundament of human culture" (p. 108). Obviously, an extrascientific appeal is here involved.

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GESELL, A. Wolf child and human child, being a narrative interpretation of the life history of Kamala, the wolf girl. New York & London: Harper, 1941. Pp. xvi+107.

In the latter part of October, 1920, there came under the care of Rev. A. L. Singh, of Midnapore, India, two naked and speechless children who,



it now appears, were destined to attain prominence in the literature of psychology. In 1927 Squires published in the *American Journal of Psychology* a brief account of these children, who meanwhile had been named Amala and Kamala. The source of his information was a letter which he had received from Rev. Singh. This communication was followed in 1931 and 1934 by short articles by Kellogg in this journal. These too were based upon letters from India. Last year, in a survey of the literature on feral man in the *American Journal of Psychology*, the anthropologist Zingg made known a few additional data concerning these two girls. He also revealed the very interesting fact that Rev. Singh had kept a diary record of the lives of Amala and Kamala. This record is in Zingg's possession and is being prepared by him for publication. The publication of the diary is to be accompanied by an extensive analysis of the literature on feral man.

In preparing *Wolf child and human child*, Gesell had access to this unpublished diary. However, only a few portions of the diary are quoted, and only a few data are specifically cited in Gesell's book. The fact that the diary has not yet appeared in print makes it exceedingly difficult to evaluate the present publication. It is regrettable that Gesell's publishers did not wait until the original document was generally available before bringing out the present volume; the book then would have furnished an interesting interpretation of the diary.

As it is, we cannot evaluate either the diary or Gesell's commentary. However, we venture to predict that the diary will be a disappointment to interested psychologists. So far as one can judge from Gesell's book, the diary contains little information in addition to that already presented in the brief notices of Squires and Kellogg.

Rev. Singh believed that Amala and Kamala spent a portion of their lives, just previous to their coming under his custody, in the companionship of wolves. His basis for this belief, so far as the already-published materials are concerned, is as follows: Rev. Singh was told by some natives of a ghost-man in their vicinity, and he was taken, before dusk, to a high platform from which he could see this ghost-man emerge from a den. Rev. Singh waited for an hour or two and finally, at a period which must have been late dusk, saw emerging from a hole some distance removed from the observer three grown wolves, two cubs, and two hideous-looking creatures which he judged to be human beings. We need scarcely suggest that the conditions for faulty perception could hardly have been better.

Rev. Singh made arrangements to have the den excavated. It is not unequivocally clear that Rev. Singh was present at the excavation (this fact is not explicitly stated in any of the published literature, although it is obviously a fact of extreme importance). At any rate, he was absent from the community for a week thereafter. When he returned, Amala and Kamala were turned over to him by the natives. We do not know how good is the evidence that two children were found in a wolf den. If two children were found, they were not sure that they were the two children who were turned over to Rev. Singh. Several writers have noted the willingness of Hindus to let missionaries take care of idiots and other defectives.



Gesell adopts an uncritical attitude toward the view that Amala and Kamala lived with wolves. Perhaps the diary will show that he is justified; however, the reviewer wishes that Gesell had taken the pains to demonstrate that his faith in the wolf-child theory is adequately supported.

Gesell assumes that Rev. Singh's basic interpretations are correct and proceeds to give an imaginative picture of the life of Kamala before her capture by a wolf, a description of her hypothetical capture by the wolf, and an account of her life in the wolf den. During the first six months of life Kamala is supposed to have followed closely the norms which have been established by the Yale Clinic of Child Development. Gesell believes she was stolen by a she-wolf at six months of age. The account of Kamala's life in the wolf den is called by Gesell a "narrative interpretation," which means, of course, that it is entirely fictitious. The remainder of the book consists of a brief statement of the development of Kamala during the nine years which she spent in Rev. Singh's orphanage, and of interpretative comments.

Since Gesell's interpretative comments are based entirely upon the assumption that Kamala's behavior (Amala, who died eleven months after coming to the orphanage, receives relatively little attention) had been molded by association with wolves, it is of major importance to examine this assumption. Inasmuch as the original diary is not yet available, we must limit our consideration to the facts and hypotheses presented by Gesell.

It is assumed by Gesell that Kamala was stolen by the wolf when she was only six months of age. During her early residence in the wolf den Kamala is supposed to have been suckled by the wolf. We do not know how long the lactating period of a wolf is, but in view of what is known about the domesticated dog, which is related to the wolf, it is probably as short as two months. Could Kamala have been weaned to freshly killed meat and to carrion at eight months of age? Could she have gone from the den to obtain water at that age?

Why did Gesell place Kamala's alleged capture by the wolf at so early a period in her life? Why did he not hold that the child was stolen at a later age? Gesell presents no reasons for choosing the middle of the first year as the probable beginning of wolf-association for the child, but we can suggest two considerations which may have influenced him in placing the hypothetical abduction so early. In the first place, if the child were assumed to have been older, it would have been difficult for the wolf to have carried the child to her den without injuring her (Gesell supposes that Kamala was carried by the nape of the neck) and also difficult to believe that the wolf would accept her as a cub. In the second place, if the child were supposed to have been older when captured by the wolf there would have been difficulty in accounting for some of Kamala's characteristics. She could not walk upright nor could she talk when she came under Rev. Singh's care. Had she been brought to the den at one year of age or at a later age, she should have been able to walk upright from the beginning of her feral life. She should also have been able to speak a few words. Writers on feral man believe in the fixity of early habits. To avoid

proposing that she lost these early habits, it may have seemed simpler to propose that she had not attained them at the time she came under the influence of wolves.

Yet can we believe that she was adopted by a wolf at the tender age of six months? Let us keep in mind that Kamala was about eight years of age when she first came to the attention of Rev. Singh. If she was captured in 1912, as Gesell proposes, her foster mother must, in 1920, have been at least nine years of age. Yet the wolf had cubs in 1920. We have been unable to find any data on the length of the reproductive life of the wolf; it would be very interesting to know whether or not it extends into the ninth year. Of course, it may be urged that the wolf which adopted Amala was not the same animal which adopted Kamala. To believe this and to believe that Kamala got transferred from one wolf den to another in a country where hundreds of children are killed by wolves annually puts too much strain upon human credulity.

One of the lines of evidence for animal-association on the part of Amala and Kamala presented by Gesell is the fact that at first they would not suffer the approach of other children. One crawling infant who approached the alleged wolf girls two months after their capture was severely bitten and scratched. It seems to have been more than a year later that Kamala could be trusted with other children. This being the case, one wonders how Amala, if she was brought as a stolen human cub to the den of the benevolent wolf, survived the treatment of the wolf-reared Kamala.

Kamala's locomotion on all fours was supposedly caused by her association with wolves and by the limited space in the den. Yet Gesell says (pp. 39 and 59) that for orthopedic reasons Kamala, in nine years of patient training, never learned to go upright as skillfully as a two-year-old. Would it not be reasonable to suppose that these same orthopedic reasons (we are not told what they were) were the original cause of her running on all fours? Do we have to depend on the wolves for this? Why should the quadrupedal locomotion of Kamala have been thought to result from an association with wolves when orthopedic causes were apparent?

Other actions of Kamala are claimed also to have been the result of her imitation of wolf-ways. She took food and water by bringing her mouth down to them instead of lifting them to her mouth. She made sounds which resembled to some extent those of wolves.

If these actions were acquired through the imitation of wolves, one wonders why certain other responses were not acquired in a similar manner. In Gesell's book nothing is said concerning Kamala's postures in urination and defecation and their resemblance to the analogous habits of wolves. We are not told that she licked skin injuries in the canine fashion. It would have been interesting also to know whether or not she pressed down a bone with her hands while picking it with her teeth. Was digging ever engaged in? Did Kamala give a scratching kick to the earth with her legs as a dog sometimes does? Was there any play between Amala and Kamala such as young wolves engage in? The absence of remarks concerning the imitation of these responses makes us doubtful that her feeding habits resulted from imitation.

The pictures of Kamala taken shortly after she came under Rev. Singh's care, shown opposite page 46 of Gesell's book, do not reveal a close approximation to wolfish habits. Kamala, in drinking, has her legs drawn up under her body as she brings her mouth to the pan. Her sitting posture bears no resemblance to that of a wolf. Her vocalization, furthermore, was said to be "neither human nor animal." While she supposedly had eaten only a wolf-diet for seven years, it seems that (p. 47) biscuits provided a good lure for her.

Gesell has supposed that Kamala was reared by wolves and has given an imaginative and sympathetic account of her life. Instead of doing this, he might have supposed that she was a mistreated idiot foisted upon a kindly, but gullible, missionary through a native stratagem. Which would have provided the more plausible account? Our decision must await the publication of the only additional evidence which is likely ever to appear, Rev. Singh's diary. Until a critical appraisal of it can be made, it seems best to reserve all judgment concerning Kamala. Conclusions concerning nature and nurture, such as those presented by Gesell, certainly should not be made to depend upon an imaginatively reconstructed life history. They are sufficiently important to justify a full presentation of the data on which they are based.

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WOOD, L. *The analysis of knowledge.* Princeton: Princeton Univ. Press, 1941. Pp. 263.

Up to a generation or so ago a book entitled *The analysis of knowledge* would have been unequivocally branded. Such a title invariably would have headed a discussion of how and under what conditions the mind knows its objects. In other words, the subject matter would have been traditional epistemology. Today, however, the analysis of knowledge might well constitute a very different intellectual enterprise. For one thing, it might cover an investigation of the accumulated information of a cultural group, with researches into the origin, rhythm, and rate of accumulation of such knowledge, as well as its theoretical, technological, or social value. Another form of knowledge analysis might primarily concern scientific procedures, as when the analyst looks into the techniques, motivation, and successes of scientists in their operations upon the materials of original and humanized nature.

The present volume, however, is traditional epistemology. It is described by the author as a re-examination of the central issues of that discipline. This re-examination of old problems Professor Wood justifies on the ground that it is founded on a more scientific psychological basis than has heretofore been the case. He firmly asserts that "no epistemology can be sound which is psychologically defective, nor any psychological analysis of knowledge significant which is philosophically naïve." In this vein he regards his book as an essay in philosophical psychology.

In no less vigorous terms he condemns the common practice of epistemologists which "is either to appropriate unconsciously outmoded psychologies of the past or else to improvise psychological theories to meet the exigencies of their epistemological speculations. But regarding the

relation between epistemology and psychology, so much is certain—the psychology of perception, memory, conception and of the other cognitive processes of mind affords the indispensable data of the theory of knowledge and any epistemological theory which is committed to psychologically false assumptions is to that degree false.”

It is in order, then, to examine what Professor Wood rejects as outmoded psychology and what he accepts as new and more suitable. Otherwise put, what is his view concerning the nature of mind? In clear and attractive language he explains that mind is a psychic entity, and the knowing situation is this psychic entity in action. Concerning this action the author's leading conception is that of cognitive transcendence—the reference of all knowledge to something beyond itself. What the author forcefully rejects is an outmoded sensationalism. Mind is a unity. So far this is the pure Act Psychology of Brentano. But the author does not rest here. He means to adopt the not for him outmoded Wundt-Titchener sensationism also. He follows closely Titchener's dimensional scheme of quality, intensity, extensity, and protensity, but leaves out the fifth dimension, attentivity. Sensations, however, he regards as merely analytical abstractions analyzed out of unified perception.

On the basis of this psychology the author covers in separate chapters the following topics: sensory knowledge, the perception of things, perceptual memory, introspective knowledge, knowledge of other selves, conceptual, categorial, formal, and valuational knowledge.

The fundamental character of Wood's epistemology is exemplified by the discussion of the question whether one self can know another. The solution of this problem of intersubjective cognition is solved by the assertion that, though one mind cannot literally share the sense data, the memories, feelings, and emotions of another, it can imaginatively reconstruct the inner life of another person.

*Caveat lector.* Is this analysis of knowledge based upon new and not outmoded psychology? Can epistemology be renovated and made into analysis of knowledge on this basis? The reviewer believes that for psychologists the description of the treatise given is sufficient for its appraisal without further comment. It may be interesting, however, to note one of the few references to behavioristic psychology, which, of course, is condemnatory. The author declares that behaviorism must acknowledge the cognizing of behavior. And yet how can knowledge of any sort exist without a cognizing subject (p. 122)?

Because the author's inclination toward spiritualistic psychology is so closely related to his conception of philosophical sophistication, the latter merits consideration. What sort of psychological analysis of knowing is naïve? Does Professor Wood, like so many other philosophers who insist upon scientific psychology in their analyses, simply intend to avoid popular psychology? If so, that is hardly an issue. On the other hand, in view of the fact that such philosophers invariably adopt a conventional spiritualistic psychology and do not even consider interactions of organisms and actual stimulus objects as psychological data, they at least suggest that by naïveté they mean the persistence in observing and interpreting natural events. When philosophers reject variables derived from ob-



servable interactions of organisms (the scientist studying the behavior of other organisms and things) in favor of cognizing subjects, the suspicion becomes strengthened that philosophical sophistication amounts to nothing more than the acceptance of the traditional propositions of philosophy teachers.

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BRITT, S. H. *Social psychology of modern life*. New York: Farrar & Rinehart, 1941. Pp. xviii + 562.

When the first two books on social psychology were published by William McDougall and Edward A. Ross, thirty-three years ago, they were notable for having almost nothing in common except their titles. By now, it is true, textbooks in the field possess a nucleus of common chapter headings and terminology, but the divergence in point of view is still striking. New concepts and theories appear each year—the conception of groups as “fields,” the level of aspiration, the frustration-aggression hypothesis—and, while this may indicate that a common scientific discipline is emerging, it is, nevertheless, proof that no fundamental science has emerged. In view of this, it is startling to read Britt’s optimistic statement in his first chapter that recent textbooks of social psychology show a considerable degree of agreement and that, therefore, social psychology is “coming of age.”

The statement is probably intended only to impress the student. For *Social psychology of modern life* itself departs from whatever faint traces of tradition may exist in the field. It is a consistent attempt to bring social psychology down out of the realm of “abstract theoretical problems” into the field of interests of the average college undergraduate. It probably can be included in the class of textbooks which are oriented primarily toward “life” and whose tables of contents are determined largely by what students want to know about. The virtues of such textbooks are admitted. This particular one is written in a breezy, informal style which is very easy to read. It is full of simple, common-sense definitions of terms, calculated never to mystify the student and obviating the necessity of using a dictionary. Homely phrases and striking figures of speech frequently appear. Nearly every paragraph has its own subheading. Of more importance, the book contains a wealth of fresh and novel examples, drawn from every aspect of social life in America and as up-to-date as the morning newspaper. The author’s appetite for social observation seems inexhaustible, and the variety of everyday social phenomena touched upon can scarcely be exceeded by any other textbook.

The effort to popularize a field of science, however, often results in oversimplification and leaves the reader who demands more than a casual acquaintance with the facts in a theoretical muddle. This defect is present to a serious degree in Britt’s book. For example, a writer who ascribes the development and modification of social attitudes to “conditioning” has an obligation to show clearly how such phenomena can be derived from established principles of conditioned-response learning. This Britt does not do. He does mention four “aspects” of conditioning—general-



zation, differentiation, "traumatic experience," and "ready-made acceptance of ways,"—and does make some use of this list as if it consisted of general principles. But if there is any explanatory logic here, it is, to say the least, obscure. The author seems even to use the term "conditioning" in the popular meaning which makes it simply synonymous with "learning"—and this is perpetuating ignorance. Other than this, there is no systematic treatment of social learning in the book. *How* the individual comes to be socialized and to interact with his fellows is never made clear. If the book had been put forward as a wholly descriptive account of behavior, the fault might not be so serious, but it is not. The author writes as if he were explaining, despite the fact that the explanatory principles have been slurred over or omitted.

Both the chapters and the topics within chapters are loosely organized and follow one another in a sequence for which it is difficult to discover any good reason. An exposition of theories of laughter and humor, for example, comes between "imitation" and "the influence of a group on individual performance." Along with "suggestion," "projection," "regression," and "rationalization," they are included in a chapter vaguely entitled "The Influence of Other Persons." There are twenty-five chapters, and some indication of their variety can be given by listing a number of the less conventional topics included within them: autistic thinking, subliminal stimulation, dominance in sexual and social behavior, the psychology of invention, marriage and divorce, the teaching profession, the ministry, college fraternities and clubs, delinquency, the social psychology of war, psychological aspects of World War II, illogical aspects of society, and "what shall we do about it?" A great many subjects are treated, but none of them exhaustively.

Despite the scope of this book, there are omissions to which some social psychologists would be sure to object. There is no treatment of social behavior in infancy and childhood, and no genetic treatment of any phenomena of adult behavior. There is no discussion of, and little reference to, problems connected with personality or individuality. Sheldon's work on human physique is dismissed in a single sentence as an attempted refinement of "the type fallacy" (p. 195). Sherif's experiments on "social norms" are inadequately described, and their implications are wholly neglected (p. 110). The frustration-aggression hypothesis is barely mentioned and never developed, much less criticized and discussed. In the light of the author's ambition to present a social psychology which has "come of age," these are serious omissions.

When Britt states his conviction, at the end, that a book such as his should help the student to make up his mind about the social problems of modern life and when he decries the cynicism which scientific discipline, pure and unalloyed, may carry with it, the reviewer at least will agree completely. But the comprehension of practical social problems is difficult, rather than easy and interesting. It is, in reality, more difficult than the comprehension of theoretical or abstract problems which inevitably must precede it. Consequently, a social psychology which expects to be really useful for "life" must do it the hard way: it must first be theoretical and systematic, and the theories must be precise, consistent, and lucid.

In the long run, furthermore, this is the only way to write a book which will be interesting to students. Social psychology is at present in need of theoretical clarity; when that is attained, the application to practical life can be pursued with a real hope of success. It needs a set of concepts instead of further collections of fascinating facts. But *Social psychology of modern life* does not help to meet this need.

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RASHEVSKY, N. *Advances and applications of mathematical biology*. Chicago: Univ. Chicago Press, 1940. Pp. xiii + 214.

Those familiar with Rashevsky's earlier work, *Mathematical biophysics*, will recall that the general program which has been laid down by the Chicago group envisages the development of a mathematical theory, based purely upon physics, for the biological sciences. Theoretical treatment has been accorded such topics of psychological interest as conditioning, delayed reflexes, rational learning and thinking, and certain configurational phenomena usually treated by *Gestalttheorie*. To this list, Rashevsky and his associates have now added reaction time, intensity discrimination, "psychophysical discrimination," and the aesthetic measure of visual patterns.

The phenomena of the excitation of the single nerve fiber are handled on the basis of a two-factor theory of excitation, similar in some details to those of Blair and Hill; the equations which are presented yield good agreement with experimental data. The descriptions of higher, more complex behavior are derived from this fundamental theory after several additional assumptions have been made.

The treatment of central nervous and complex behavior functions is determined by the procedure of postulating "a few mathematically definite laws of interaction between two adjacent neuroelements and then (considering) to what consequences such laws of interaction lead when applied to different geometrical arrangements of the interacting elements" (p. 120).

The laws of interaction consist of a set of postulates with respect to mutual excitatory and inhibitory influences between two adjacent neurones at the synapse. Thus, for example, in its full development, the theoretical treatment of intensity discrimination, first phrased in terms of qualitatively differing response to quantitatively differing stimuli, reduces to the discovery of a neurone circuit whose properties are such that variation in the magnitude of  $S$ , the stimulus acting upon a single afferent neurone, will determine which of two efferent neurones will be excited.

*Advances and applications of mathematical biology* corrects the serious deficiency of experimental test which was so marked in *Mathematical biophysics*. Predictions yielded by theory fit a variety of data in an interesting manner.

As is perhaps inevitable, the treatment of some topics is too hastily concluded, with the result that significant aspects are underestimated or disregarded. This is strikingly true of the treatment of intensity discrimination, where the theory is identical for vision, audition, and touch.

There exist, especially for vision, theories with a different emphasis which take account of more variables and which have, within limits, predicted experimental data with striking accuracy. These have been ignored in Rashevsky's treatment. Criticism can be leveled, too, against some of the assumptions made by the author. Here we may mention the treatment of reaction time, where the reasoning involves some of the difficulties of the old subtractive technique.

Despite its controversial aspects, Rashevsky's book is a welcome addition to psychology, not only with regard to theory, but also as a representation of quantitative method. There are undoubtedly a great many differences of opinion as to the direction in which quantitative treatment should most fruitfully tend. Certainly, many psychologists will deprecate the quantitative neurology which Rashevsky regards as basic. In all fairness, however, it should be stated that Rashevsky's approach has been well considered and that the validity of other points of view is recognized. An alternative approach (which is rejected) is characterized by the author as considering "the structure of the central nervous system, with its tremendous number of neural elements (to be) quasi-homogeneous and (trying) to account for the enormous complexity of its functions by postulating correspondingly complex dynamical laws of interaction by the individual elements" (p. 120).

Undoubtedly, a theory of the latter type would be more pleasing to a great number of psychologists. Another group would probably be interested in stating the quantitative relationships between stimulus and response in relatively formal terms whose constructs are divorced as little as possible from the level of observation. Whatever the specific characteristics of the chosen approach may be, it is true that each entails its associated pitfalls.

So far as the program outlined by Rashevsky is concerned, it seems to the reviewers that the greatest danger lies in the possibility that the development of theory may degenerate into a game of elaborating models, whose quantitative verification may be further and further removed from the realm of experiment. Rashevsky is professedly aware of this, and the present work, with its emphasis on experimental data, may serve as a safeguard against such an eventuality.

The reviewers admit to a prejudice against the type of theorizing in terms of intimate mechanisms which is exemplified in Rashevsky's work. However, in making a final evaluation of the book, it may be worth while to re-emphasize the old truth that science is a social endeavor. If, at some point in his theorizing, Rashevsky should fall into the pitfalls which face a person who is trying to apply mathematics to a complex field, let us remember that he or others can supply the cure and that the cure will be facilitated by the form in which the theories are advanced. It is precisely in this regard that mathematical treatment shows to best advantage. Because Rashevsky has provided us with a valuable example of the quantitative method, the field of psychology is considerably enriched.

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GUILFORD, J. P. (Ed.) *Fields of psychology*. New York: Van Nostrand, 1940. Pp. x+695.

*Fields of psychology* differs from its predecessors in that it is a coöperative effort, each field being discussed by a specialist. This is as it should be, for the various fields of psychology are becoming more and more distinct from one another.

The names of those contributing to the volume are well known. Anne Anastasi writes on differential psychology; Horace B. English on educational; G. L. Freeman on physiological; Douglas Fryer on professional, including college personnel, professional personnel, legal psychology, and consumer psychology; J. P. Guilford, who has edited the volume, is responsible for the introduction and the preface; C. J. Warden writes on animal psychology; Kate Hevner on aesthetics; Daniel Katz on social; C. M. Louttit on clinical; Laurance F. Shaffer on abnormal; Mary Shirley on child psychology; Morris S. Viteles on vocational and industrial; and Milton Metfessel on points of view held in psychology.

Looking over the fields of psychology discussed, the points that stand out immediately are the omission of experimental and business psychology from treatment in the book, the inevitable lack of cohesion between the different chapters, and the inclusion of aesthetics as a field of psychology.

The omission of experimental psychology is excused on the basis that all fields of psychology have become in large measure experimental, and therefore there seems to be no need for treating experimental psychology as a separate field. The reviewer does not agree with this contention. Experimental psychology is more than a method; it has a point of view which depends on its content and which is lost if the content is dealt out to the several other fields. Business psychology is treated to some extent under industrial and consumer psychology. The reviewer is of the opinion that it is time that business psychology should be recognized as a field in itself and not merely as a part of industrial or some other applied branch of psychology.

The lack of cohesion between the several parts of the book is unfortunate in a book which is intended as a second course text for students in psychology. The idea of a symposium, "written by contributors who have shown by their previous writings that they are very much at home in their respective fields," has merit, but special care should be taken to secure an harmonious presentation. The inclusion of aesthetics as a field of psychology is both novel and judicious, but what about the philosophers, who have always regarded aesthetics as a branch of philosophy?

Despite these shortcomings, the authors do succeed in giving the reader a bird's-eye view of the major fields of psychology. In each field the reader learns about historical developments, specific subject matter, the methods used, and the chief contributions made to psychology.

PETER HAMPTON.

*University of Manitoba.*



CATTELL, P. The measurement of intelligence of infants and young children. New York: Psychological Corporation, 1940. Pp. 274.

A rare degree of insight into the nature of young children and into the requirements of a satisfactory test for them has been combined in this new scale with a highly practicable organization of the materials and methods of testing. The author has attempted to develop a scale that is an extension downward to two months of Form L of the Stanford-Binet tests. Some of the outstanding merits of this scale are: (1) The test age levels are set at each month for children from two to twelve months, for two-month levels from twelve to eighteen months, and for three-month intervals from eighteen to thirty months. This offers the potentiality of much greater accuracy in testing than earlier scales with greater intervals between age levels. (2) There are five items at each age level, with at least one alternate and often more. (3) The scoring of the scale is easily understood, since it follows the same method used in the Stanford-Binet scale. (4) Certain of the Stanford-Binet items are intermingled with the items from other sources at the ages twenty-two to thirty months to facilitate the supplemental use of the scale with the Stanford-Binet scale. (5) The scale avoids time limits and timed tests. (6) The test scale needs to be administered in no definite order, and it has been standardized so that the child may be held on the mother's lap during the test if it seems desirable. (7) The examination takes from twenty to thirty minutes. (8) The standardization is based on 1546 examinations on 274 children. (9) The directions for test administration are clearly and fully given with illustrative photographs for each test. (10) The author has given a helpful analysis of the adjustments and points of view necessary in testing infants and young children.

The major discussion of the section on statistical evaluation is concerned with an analysis of individual IQ curves and median IQ's for special groups of children. There is no exact statement of the criteria used for the placement of tests at the different age levels, although a table is given showing the per cent passing each test at all the significant age levels. Whatever method was used, apparently there needed to be considerable realignment of the items during the course of the standardization. Considerable time is spent discussing validity and reliability of the scale. There is a tacit assumption that correlation with another test evaluates the validity of the test. The split-half method was used to determine reliability, which method some might question with material of this type. The test results upon which the scale was standardized are used to determine the predictive value of the scale. In this section it is shown that the predictive value of the scale is much greater for the ages from eighteen months on than for the younger ages.

While this meagerness of statistical treatment is disappointing to those who realize its significance and danger, this fact should not be allowed to detract from this really valuable contribution to the mental measurement of young children.

RACHEL STUTSMAN BALL.

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Altadena, California.



TIEGS, E. W., & KATZ, B. *Mental hygiene in education*. New York: Ronald Press, 1941. Pp. xiv + 418.

The aims of this book are stated to be "a textbook in mental hygiene for teachers in training as well as students of psychology. Teachers in service, administrators, and supervisors will also find it useful in handling personality problems of school children. Finally, it may serve as a practical guide for parents, and for parent-teacher association study groups."

Part I, 155 pages in length, deals with such topics as the problem of mental health, mental health hazards, mental mechanisms, and "confusing, misleading and limited" theories of personality. The sociological and economic significance of mental disease and delinquency is presented, and it is broadly hinted that adequate handling of minor maladjustments in schools would prevent the development of a considerable proportion of the incidence of psychosis and crime. There is a full discussion of mental mechanisms which is based on a paper by R. H. Seashore and the junior author. The mechanisms are classified according to whether they are "socially approved" (e.g. rationalization), "socially tolerated" (e.g. projection), "socially criticized" (e.g. regression), or "socially disapproved" (e.g. negativism). It is somewhat surprising to find "repression" listed among the "socially disapproved" mechanisms, along with the phantasy and negativism.

In the chapter on "Mental Health Hazards" there is a drawing of the location of the endocrine glands which might well lead an unsophisticated reader to conclude that the pineal gland is to be found in the center of the forehead and the pituitary on the bridge of the nose.

Part II, 157 pages in length, entitled "Personal and Social Adjustment," discusses "modern" theories of personality and considers such topics as the diagnosis of behavior difficulties, aiding the maladjusted pupil, and the measurement and interpretation of improvement in personality adjustment. The discussions of "theories of personality" are brief and banal. One wonders whether these discussions (varying in length from half a page to a page) of such "theories of personality" as structuralism, functionalism, purposivism, Gestalt, eidetic theory, and Alfred Adler's individual psychology serve any useful function in a book designed as a practical guide for teachers and parents. Graphology is classified as a "pseudo-scientific" theory, the work of the group of serious European graphologists not being mentioned. Kretschmer's typology finds its place among the "limited" theories, while E. R. Jaensch's typology based upon eidetic imagery finds its place among the "modern" theories. Under methods of diagnosis, the usual series—observation, questionnaires, rating methods, tests, etc.—are briefly discussed. The making of case reports and the taking of a case history are treated at somewhat greater length.

Part III, 98 pages in length, entitled "The More Serious Personality Difficulties," deals with the analysis and treatment of nervous habits, sexual difficulties, and thinking difficulties, and discusses the neuroses and psychoses.

The tone of the book frequently reflects an attitude which seems to be characteristic of a certain type of mental hygienist. Profoundly ignorant

of the complexities of human psychology, he never tires of implying that most, if not all, of the behavior difficulties of children and, by implication, the psychological ills of mankind are traceable to the ignorance, mismanagement, and cruelty of teachers and parents. The book is replete with statements like the following:

Parents are often severe with their children but lenient with themselves. They expect each rising generation to emulate the great characters of history, and reserve for themselves the privilege of making all the mistakes.

The following classification of so-called 'behavior difficulties' is adapted from Wickman. These difficulties should in reality be looked upon as evidences of teacher and parental misunderstanding and mismanagement.

A youth's violation of the law frequently indicates merely that parents and teachers have not provided these facilities [for seeking new experience, adventure and excitement] and they, rather than the children and the youth, should be considered delinquent.

On the whole, the volume is not impressive and can hardly be counted a distinguished addition to the number of available texts. Since it covers a wide field and a good deal of material, teachers in normal schools may find it useful as a vehicle of instruction. It will be less useful to teachers in service and parents who are seeking a practical guide for the handling of problem children.

After reading a book like this, one is inclined to wonder if the mental hygienists in general have not "oversold" themselves. They present in vivid form the toll that mental disease, delinquency, and war take. They then promise to give the means for preventing these scourges. And how is the promise fulfilled? With "theories of personality," oversimplified descriptions of mental mechanisms, "case histories," hints on treatment, and anything else that can be gotten out of the grab bag of psychiatric and psychological literature. It is trite to remark that psychology and psychopathology are infant disciplines which have progressed only a very short distance toward the mastery of their theoretical and practical problems, but it is a platitude that many proponents of "mental hygiene" have yet to take to heart.

ARTHUR L. BENTON.

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U. S. Naval Air Station,  
Pensacola, Florida.*

KARDINER, A. The traumatic neuroses of war. (Sponsored by the Committee on Problems of Neurotic Behavior, Division of Anthropology and Psychology, National Research Council.) New York: Hoeber, 1941. Pp. x+258.

After reading Kardiner's *Traumatic neuroses of war* one is impressed with how very little was apparently known about this type of phenomena at the time of the first World War and, further, with the poverty of information discovered in this field since 1918. In his own words:

The plan of the book is first to describe the clinical forms of the traumatic

neuroses; then to determine, from the analysis of the symptomatology, what aspects of the personality are involved; to arrive at some working definition of trauma, thence to a discussion of the psychopathology, and finally to a discussion of therapy and the forensic problem involved.

Just as the textbooks of two generations ago could give excellent descriptions of the symptoms of paresis, but had to be content with speculation as to its cause and guesses as to its treatment, so Kardiner gives a fair discussion of the symptoms, but his theories as to cause, diagnoses, and treatment are full of "sound and fury, signifying nothing" and are based on purely gratuitous assumptions.

The book ignores some of the most important factors in traumatic neuroses. Little attention is given to such things as the physical fatigue and nervous exhaustion which were present at the time of the traumatic incident. It might well be that the same trauma inflicted on an individual who had lost several nights sleep would have much more serious consequences than if inflicted on the same individual in a more normal state. Nor does the book give adequate treatment to certain hereditary factors. Our experience in 1917-1918 teaches us to go slow in drafting men from certain families with a long history of nervous instability. Many draft boards are trying to profit by that experience.

And most important of all is the fact that too little attention is given to the malingerers. Many consciously affect nervous ailments in order to be removed from the danger zone of war. Their motives are clear-cut and obvious; they merely wish to avoid danger. After the war, their motives are to get compensation or some other benefits.

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Washington, D. C.

LUNDHOLM, H. The aesthetic sentiment: a criticism and an original excursion. Cambridge, Mass.: Sci-Art, 1941. Pp. 223.

The author's criticism is directed chiefly upon *Beauty and other forms of value*, by the late Samuel Alexander. Large portions of this book are quoted with sympathetic approval, but exception is taken to Alexander's identification of the behavior of the "creating artist" with that of the "appreciating spectator."

The difference between these two behaviors "seems colossal" to Lundholm, yet his "original excursion" only leads to "compromise and conclusion," as he calls the final part of his book. The reviewer regrets that he was unable to detect a definition of the "aesthetic sentiment" or of the "laws of beauty" which presumably would determine the course of artistic creation, and perhaps suggest the fundamental difference between the creative act of the artist and the appreciative act of the spectator.

The author is drawing upon a not too clearly stated idealistic philosophy in which a "Philosopher's God" is able to account for artistic inspiration—even when it is Divine. Under such auspices it would appear unnecessary to seek a scientific explanation of art or beauty.

R. M. OGDEN.

Cornell University.

CLECKLEY, H. *The mask of sanity*. St. Louis: Mosby, 1941. Pp. 298.

The author presents in the first 174 pages fifteen male cases of psychopathic personality. The behavior-patterns bear striking resemblance save in one or two cases as, for example, that one in which alcoholism is not involved and possibly that of the psychopathic psychiatrist. Then follow a history of theories of psychopathy, a differential diagnosis of psychopathy from other mental aberrations, particularly psychosis and psychoneurosis, and an abstracting of the typical common features of the fifteen psychopathic cases presented. In closing, the author attempts a theory of his own of psychopathic personalities with respect to what is wrong with these personalities, how such a change occurs, and what can be done.

According to the author a psychopath is a very attractive person and makes a very good first impression. He is devoid of obvious physical stigmata; he is normally or supernormally intelligent, and his intelligence does not undergo deterioration. In the traditional sense he is neither psychotic nor psychoneurotic. At first impression he is a very reliable person, but only later is it found that he has no sense of responsibility. He has no regard for truth, never sincerely accepts blame for his various misfortunes and misdoings, is devoid of a sense of shame. Despite his intelligence he is conspicuously improvident, unable to profit from past experience; he is distinguished by excessive egocentricity and incapable of deep attachment to a sex-object. He lacks true insight into his condition, hiding from himself in a blaming of others for his troubles. He is particularly devoid of genuine gratitude and very frequently given to alcoholic stupefaction without psychotic symptoms. He seems to desire a sort of spiritual and moral death, but never a physical suicide. His sex-life shows peculiarities not so much in the sense of homosexual or perverted trends as in a lack of sexual potency coupled with promiscuity. Here, as in other respects, infantilism is conspicuous. Women are particularly attracted to psychopathic men for the opportunity they see in satisfying their mother impulse. Adverse heredity cannot be proved in these fifteen cases, although the author believes that something may be amiss there. The psychopath is strikingly unable to follow any life plan consistently, save that of going out of his way to make a failure of his life, to destroy himself spiritually and morally.

In attempting a somewhat inconclusive theory, the author suggests that a more appropriate term than psychopathy would be *semantic dementia*, in that regressive deterioration or moral or cultural meanings is very pronounced. A psychogenic basis for semantic dementia is seen either in faulty pedagogy or in subsequent conflict entailing regressive demoralization. Neurologically speaking, there appears to exist a predilection for short-circuits rather than for long-circuits, due either to faulty training in inhibition or to constitutional predisposition. For the author, constitution undoubtedly has something to do with psychopathy, but the possibility, if any, of coping with the malady lies in the psychogenic approach. Psychopaths, in that they lack insight into their condition and are unable to carry on the usual activities of life without constant supervision, should legally be permitted to enter psychiatric hospitals where every means should be taken to study and to remedy their malady, not

excluding the experimental administration of insulin-shock and metrazol.

Adversely, it may be said of this work that typical characterizations of psychopaths and the author's theory of psychopathy are based on too many cases of one and the same modality, i.e. on an insufficiently varied material as to sex and behavior pattern. The author's service with the U. S. Veterans' Administration is possibly the cause of this peculiar limitation of the material. Undoubtedly an enlargement in the sense of a diversification of the material would lend support to much of his contention while modifying greatly the somewhat warped picture of the psychopath which the reader inevitably obtains from the fifteen cases presented.

By far and large the most valuable part of the book is the historical sketch of theories of psychopathy.

F. C. SUMNER.

*Howard University.*



## BOOKS AND MATERIALS RECEIVED

BARKER, R., DEMBO, T., & LEWIN, K. Frustration and regression: an experiment with young children. (Studies in Topological and Vector Psychology II.) *Univ. Ia Stud. Child Welf.*, Vol. XVIII, No. 1. Iowa City: Univ. Iowa Press, 1941. Pp. xv+314.

BETTS, E. A., & AUSTIN, A. S. Visual problems of school children. Chicago: Professional Press, 1941. Pp. 80.

CANTRIL, H. The psychology of social movements. New York: Wiley, 1941. Pp. xv+274.

GOLDFARB, W. An investigation of reaction time in older adults and its relationship to certain observed mental test patterns. *Teach. Coll. Contr. Educ.*, No. 831. New York: Bureau of Publications, Teachers College, Columbia Univ., 1941. Pp. viii+76.

GUENTHER, L. A German ace tells why: from Kaiserdom to Hitlerism. (With a Foreword by F. M. Eliot.) Cambridge: Sci-Art, 1941. Pp. 78.

HARTMANN, G. W. Educational psychology. New York: American Book, 1941. Pp. xvi+552.

MCCALL, W. A., & CRABBS, L. M. Standard test lessons in reading for small schools and Manual of directions including answer key (1938 ed.). New York: Bureau of Publications, Teachers College, Columbia Univ., 1941. Pp. 90+grade scores; pp. 11+answer keys for all books.

McKINNEY, F. Psychology of personal adjustment: students' introduction to mental hygiene. New York: Wiley, 1941. Pp. xi+636.

MORGAN, J. J. B. Workbook in psychology. New York: Farrar & Rinehart, 1941. Pp. iv+122.

RUCH, F. L. Psychology and life: a study of the thinking, feeling, and doing of people. (New ed.) Chicago: Scott, Foresman, 1941. Pp. xii+754.

———. Les parents et l'enfant. (Deuxième Congrès annuel 18-21 juin 1941.) Ottawa: Les Éditions du Lévrier, 95, Avenue Empress, 1941. Pp. 207.

———. Symposium on recent advances in psychology. (Papers read before the American Philosophical Society Annual General Meeting, April 25, 1941.) Philadelphia: American Philosophical Society, 1941.

## NOTES AND NEWS

DR. JOSEPHINE CURTIS FOSTER, professor in the Institute of Child Welfare at the University of Minnesota since 1926, died July 3, 1941, at the age of 52 years.

DR. FRANKLIN O. SMITH, professor of psychology at the University of Montana, died in Missoula on July 13, 1941.

PROFESSOR ROSWELL P. ANGIER retired on June 30 as chairman of the department of psychology and associate dean of the Graduate School, Yale University. A portrait of Professor Angier, painted by Professor Deane Keller, of the Yale School of Fine Arts, and presented to the University on June 10 by a group of present and past colleagues and students, has been hung in the reception hallway of the department of psychology.

DR. DONALD G. MARQUIS has been appointed to succeed Professor Angier as chairman of the department of psychology at Yale University. Other appointments include: Dr. Carl I. Hovland as director of graduate studies; Dr. Robert L. French as Sterling Fellow in psychology; Dr. Judson S. Brown, Harvard University, and Dr. Medford B. Wesley, University of Minnesota, as instructors.

DR. ANTHONY J. MITRANO, consulting psychologist to the Board of Education in Rochester, New York, has resigned that position to become the director of the Psychological Test Bureau in Rochester.

### INSTITUTE ESSER DE CHIRURGIE STRUCTIVE FOR AIDING THE GRAVELY CRIPPLED AFFLICTED WITH AN INFERIORITY COMPLEX

About five years ago European scientists founded this Institute, which aims to be independent of any government or organization and which has aspirations of founding an island colony for the afflicted which would be a center for research in medical and surgical problems and where the gravely crippled of any nation, denomination, or political affiliation would be treated without cost, but would be expected to work to benefit the Institute and replace salaried employees.

A committee of renowned specialists will make a thorough study of all applicants in order to ascertain in which branch they will be most useful. The work will consist of agricultural pursuits, animal husbandry, administrative functions, etc. It is hoped that opportunity for such work plus the independence of those interned will eliminate the inferiority complexes from which they suffer. It is also hoped that this community effort and various individual contributions will eventually make the Institute self-supporting.

Two Mediterranean governments have become interested in the Institute to the extent of placing a small island at its disposal, but unfortunately the war has interfered with plans for occupancy.

PROFESSOR ARTHUR W. MELTON, of the University of Missouri, Secretary of Section I (Psychology) of the A.A.A.S., has announced that the Section will meet in Dallas, Texas, on Monday, December 29, and Tuesday, December 30, as part of the general meeting of the A.A.A.S., which extends from December 29 through January 3.

In addition to the usual program of contributed papers there will be, on Monday, December 29, a symposium on "Recent Advances in the Appraisal of Personality" under the chairmanship of Professor Ernest R. Hilgard, of Stanford University, and on Tuesday, December 30, a joint symposium with Section Q (Education) on "The Psychology of Learning and the Educative Process." At the annual dinner meeting on Tuesday evening, Professor Karl M. Dallenbach, retiring Vice-President of Section I, will deliver his Vice-Presidential Address.

All who wish to read papers should submit abstracts in duplicate (not more than 300 words in length). Please note on the abstract the time required for presentation up to a limit of 15 minutes. Abstracts should be sent to the Chairman of the Program Committee, Professor John A. McGeoch, Department of Psychology, State University of Iowa, Iowa City, Iowa, so that they will be received not later than November 15, 1941.

THE Secretary's Office and the Publications Office have lost contact with the following people, the last address of each being given:

Elsie O. Bregman, 98 Morningside Drive, New York City

Dr. Malcolm Campbell, Box 6, Old Albuquerque, New Mexico

Joseph W. Friedlander, 164 West 9th Avenue, Columbus, Ohio

Dr. Jean M. Irwin, 114 Sansome Street, San Francisco, California

Dr. Earl G. Lockhart, 85 Charlette Street, Akron, Ohio

Albert P. Maslow, 1422 Massachusetts Avenue, N. W., Washington, D. C.

Dr. J. T. Russell, 2913 East 68th Street, Chicago, Illinois

Dr. Adelin W. Scott, 1509 16th Street, N. W., Washington, D. C.

In order to complete their records, the above Offices would like to hear from anyone who knows of the whereabouts of these persons. Address: The American Psychological Association, 1822 Sherman Avenue, Evanston, Illinois.

## CONTENTS OF VOLUME 38

### ORIGINAL CONTRIBUTIONS, REPORTS, GENERAL REVIEWS, SUMMARIES, DISCUSSIONS

The experimental embryology of mind: LEONARD CAR-	
MICHAEL.....	1
Current trends in psychological theory: J. R. KANTOR.....	29
Recent research in cutaneous sensitivity: II. Touch and the	
neural basis of the skin senses: WILLIAM LEROY JENKINS	
& LAWRENCE JOSEPH STONE.....	69
Experimental hypnotism: a review: PAUL C. YOUNG.....	92
The experimental analysis of appetite: PAUL THOMAS YOUNG	129
Nostalgia: a review of the literature: WILLIS H. MCCANN..	165
Alcohol: a critical review of the literature, 1929-1940: HELEN	
MARSHALL.....	193
Recent studies of the level of aspiration: JEROME D. FRANK..	218
The logic of modern psychology:	
I: ARTHUR W. MELTON.....	227
II: CARROLL C. PRATT.....	236
Recent developments in the field of emotion: WILLIAM A.	
HUNT.....	249
Research on speech sounds for the first six months of life:	
ORVIS C. IRWIN.....	277
Military psychology:	
Introduction: C. C. PRATT.....	311
Army motor transport personnel: HARRY R. DESILVA,	
PHILLIP ROBINSON, & WILLIS H. FRISBEE, JR.....	313
Aviation: G. H. S. RAZRAN & H. C. BROWN.....	322
Classification of military personnel: THOMAS W. HAR-	
RELL & RUTH D. CHURCHILL.....	331
Effects of certain drugs on mental and motor efficiency:	
S. D. S. SPRAGG.....	354
Fatigue: KINSLEY R. SMITH.....	364
German military psychology: H. L. ANSBACHER.....	370
Morale: a bibliographical review: IRVIN L. CHILD.....	393
Motivation and learning in relation to the national	
emergency: O. H. MOWRER.....	421
Perception: SAMUEL W. FERNBERGER, <i>et al.</i> .....	432

Propaganda technique and public opinion: BRUCE LANNES SMITH.....	469
Psychological causes of war: ROSS STAGNER.....	484
Rehabilitation: MORRIS S. VITELES.....	489
War neuroses: WILLIAM H. DUNN.....	497
The Gasirowski bibliography of military psychology: H. L. ANSBACHER.....	505
Program of the Forty-ninth Annual Meeting of the American Psychological Association, Northwestern University, September 3, 4, 5, 6, 1941: WILLARD C. OLSON...	509
Psychology in South America: J. G. BEEBE-CENTER & ROSS A. MCFARLAND.....	627
Childhood memories: a review of the literature: GEORGE J. DUDYCHA & MARTHA M. DUDYCHA.....	668
Proceedings of the Thirty-sixth Annual Meeting of the Southern Society for Philosophy and Psychology: NORMAN L. MUNN.....	683
Proceedings of the Sixteenth Annual Meeting of the Midwestern Psychological Association: ROBERT H. SEASHORE.....	704
Proceedings of the Twelfth Annual Meeting of the Eastern Psychological Association: HARRY HELSON.....	722
Proceedings of the Twenty-first Annual Meeting of the Western Psychological Association: RALPH H. GUNDLACH.....	730
A critical review of the concept of set in contemporary experimental psychology: JAMES J. GIBSON.....	781
Professor Thurstone, a correction: C. SPEARMAN.....	818
Proceedings of the Forty-ninth Annual Meeting of the American Psychological Association, Inc., Northwestern University, September 3, 4, 5, 6, 1941: Report of the Secretary: WILLARD C. OLSON.....	819
Temperament: a survey of animal studies: CALVIN S. HALL..	909
Electroencephalography and physiological psychology: evaluation and statement of problem: JOHN R. KNOTT.....	944
A résumé of major experiments in abstract design ending with the year 1941: LLEWELLYN N. WILEY.....	976

## BOOK REVIEWS

Warden, Jenkins, & Warner's Comparative psychology: a comprehensive treatise. Vol. II: Plants and invertebrates: T. C. SCHNEIRLA.....	105
---	-----



Werner's Comparative psychology of mental development. (Trans. by E. B. Garside, with a Foreword by G. W. Allport.): J. B. STROUD.....	108
Bird's Social psychology: ELIZABETH B. HURLOCK.....	111
Hartmann & Newcomb's (Ed.) Industrial conflict: a psycho- logical interpretation. (First Yearbook of the Society for the Psychological Study of Social Issues, 1939.): JOHN G. JENKINS.....	115
Gallup & Rae's The pulse of democracy: the public opinion poll and how it works: HENRY C. LINK.....	117
Young's Personality and problems of adjustment: EDWARD S. JONES.....	118
Husband's General psychology: M. O. WILSON.....	120
Merry & Merry's From infancy to adolescence: an introduc- tion to child development: ORVIS C. IRWIN.....	121
Abramson's L'enfant et l'adolescent instables: études clin- iques et psychologiques: JOHN B. WOLFE.....	122
Howells' Hunger for wholeness: man's universal motive: DOUGLAS FRYER.....	123
Bierens de Haan's Die tierischen Instinkte und ihr Umbau durch Erfahrung: eine Einführung in die allgemeine Tierpsychologie: HENRY W. NISSEN.....	183
Konczewski's La pensée préconsciente: essai d'une psy- chologie dynamiste: CARROLL C. PRATT.....	185
Mannheim's Man and society in an age of reconstruction: studies in modern social structure (with a Bibliograph- ical Guide to the study of <i>Modern Society</i> ): DONALD V. McGRANAHAN.....	186
Cole's The background for college teaching: DEWEY B. STUIT.....	187
Thomson's The factorial analysis of human ability: JOHN C. FLANAGAN.....	241
Reed's Psychology and teaching of secondary-school sub- jects: G. T. BUSWELL.....	243
Gray & Votaw's Statistics applied to education and psy- chology: ALVIN C. EURICH.....	245
Maslow & Mittelmann's Principles of abnormal psychology: the dynamics of psychic illness: CARNEY LANDIS.....	286
Burt's The factors of the mind: an introduction to factor analysis in psychology: DAEL WOLFLE.....	287
Rexroad's Psychology and personality development: GEORGE ROSS WELLS.....	289

Fries's English word lists: a study of their adaptability for instruction (with the coöperation of A. A. Traver): ROBERT H. SEASHORE.....	290
Landis & coauthors' Sex in development: a study of the growth and development of the emotional and sexual aspects of personality together with physiological, anatomical, and medical information on a group of 153 normal women and 142 female psychiatric patients (with a Foreword by N. D. C. Lewis): FLORENCE L. GOODENOUGH.....	292
Bartlett's Political propaganda: P. R. FARNSWORTH.....	295
Lazarsfeld's Radio and the printed page: an introduction to the study of radio and its role in the communication of ideas: PAUL J. FAY.....	296
MacCrone's Race attitudes in South Africa: historical, experimental and psychological studies: CECIL W. MANN.....	297
Glover's (Ed.) The investigation of the technique of psychoanalysis (with the assistance of M. Brierley): C. H. GRAHAM.....	299
Marzolf's Studying the individual: a manual on the case study for guidance workers and psycho-clinicians: GEO. A. KELLY.....	300
Jersild's Child psychology. (Rev. & enlarged.): JERRY W. CARTER, JR.....	300
Sheldon's The varieties of human physique: an introduction to constitutional psychology (with the collaboration of S. S. Stevens & W. B. Tucker): OTTO KLINEBERG.....	750
Brown's The psychodynamics of abnormal behavior (with the collaboration of K. A. Menninger): WALTER C. SHIPLEY.....	751
Woodworth's Psychology. (4th ed.): CLAUDE E. BUXTON...	753
Cattell's General psychology: FREDERICK A. COURTS.....	755
Zipf's National unity and disunity: the nation as a bio-social organism: J. F. BROWN.....	758
Bryant & Aiken's Psychology of English: B. F. SKINNER...	761
Paterson & Tinker's How to make type readable: a manual for typographers, printers and advertisers (based on twelve years of research involving speed of reading tests given to 33,031 persons): HAROLD E. BURTT.....	762
Buros' (Ed.) The 1940 mental measurements yearbook: J. B. STROUD.....	764

Monroe's (Ed.) Encyclopedia of educational research: ERNEST R. HILGARD.....	767
Ansbacher's (Ed.) <i>Psychological Index</i> —Abstract references of Volumes 1-25, 1894-1918; Volumes 26-35, 1919- 1928: C. M. LOUITT.....	768
Thorpe's Personality and life: a practical guide to personality improvement (assisted by J. N. Holliday): ANNE AN- ASTASI.....	769
Carlson's Born that way: CHARLES R. STROTHER.....	770
Lennox's Science and seizures: L. A. PENNINGTON.....	771
Rosenfield's From beast-machine to man-machine: animal soul in French letters from Descartes to La Mettrie (with a Preface by P. Hazard of the Académie française): J. R. KANTOR.....	772
Hollingworth's Public addresses: JOHN A. MCGEOCH.....	772
Köhler's Dynamics in psychology: KENNETH W. SPENCE...	886
Gesell's Wolf child and human child, being a narrative inter- pretation of the life history of Kamala, the wolf girl: WAYNE DENNIS.....	889
Wood's The analysis of knowledge: J. R. KANTOR.....	893
Britt's Social psychology of modern life: J. J. GIBSON.....	895
Rashevsky's Advances and applications of mathematical bi- ology: C. H. GRAHAM & W. S. VERPLANCK, JR.....	897
Guilford's (Ed.) Fields of psychology: PETER HAMPTON....	899
Cattell's The measurement of intelligence of infants and young children: RACHEL STUTSMAN BALL.....	900
Tiegs & Katz's Mental hygiene in education: ARTHUR L. BENTON.....	901
Kardiner's The traumatic neuroses of war. (Sponsored by the Committee on Problems of Neurotic Behavior, Division of Anthropology and Psychology, National Research Council.): F. A. Moss.....	902
Lundholm's The aesthetic sentiment: a criticism and an original excursion: R. M. OGDEN.....	903
Cleckley's The mask of sanity: F. C. SUMNER.....	904
Porteus' The practice of clinical psychology (with the assist- ance of M. Hunter & C. J. Herrick): FRANCIS N. MAX- FIELD.....	991
Greene's Measurements of human behavior: ROBERT M. LINDNER.....	992

Valentine's Experimental foundations of general psychology. (Rev. ed.): C. W. TELFORD.....	993
Seashore's Why we love music: PAUL R. FARNSWORTH.....	994

## MISCELLANEOUS

Books and Materials Received. .66, 125, 190, 247, 303, 774, 906, 996	
Notes and News.....	67, 126, 191, 248, 304, 624, 777, 907
Corrections.....	192, 248
Index of Subjects.....	997
Index of Authors.....	999

